Source: **T1**

Title: **CR's to TS 34.123-1 v3.1.0 for approval**

Agenda item: **6.1**

Document for: **Approval**

This document contains 14 CRs to TS 34.123-1 v3.1.0. These CRs have been agreed by T1 and are put forward to TSG T for approval.

CRs requiring special attention:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level
34.123-1	034		R99	Application of integrity mode protection to signalling message by default	F	3.1.0	3.2.0	T1-000297
34.123-1	035		R99	New teset cases for CS intersystem handover	B	3.1.0	3.2.0	T1-000300
34.123-1	036		R99	CR to 34.123-1, Annex B, Mapping of test cases to core specification versions	D	3.1.0	3.2.0	T1-000319

CRs with routine updates:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level
34.123-1	037		R99	Application of ciphering during conformance testing and changes to integrity mode protection related messages	C	3.1.0	3.2.0	T1-000286
34.123-1	038		R99	Idle Mode test cases in chapter 6	F	3.1.0	3.2.0	T1-000288
34.123-1	039		R99	Update to RLC test cases	F	3.1.0	3.2.0	T1-000301
34.123-1	040		R99	Technical Corrections to RRC test cases in clause 8	F	3.1.0	3.2.0	T1-000292
34.123-1	041		R99	Updates to clause 8 and Annex A due to RAN2 core specifications modifications	C	3.1.0	3.2.0	T1-000293
34.123-1	042		R99	Editorial modification for CC test cases (Clause 10)	D	3.1.0	3.2.0	T1-000289
34.123-1	043		R99	Update of radio bearer test cases	F	3.1.0	3.2.0	T1-000290
34.123-1	044		R99	Update of Session Management test cases	B	3.1.0	3.2.0	T1-000298
34.123-1	045		R99	Modification to the “Authentication rejected by the UE” test case	F	3.1.0	3.2.0	T1-000308
34.123-1	046		R99	Update to 16. SMS test specification	F	3.1.0	3.2.0	T1-000309
34.123-1	047		R99	Correction to MM tests	D	3.1.0	3.2.0	T1-000310

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000

Document T1-000286
e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

3GPP/TSG T1/SIG Meeting#12
Tokyo, Japan, 17-19 October 2000

Document T1S000164
e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

34.123-1	CR	037	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: T#10	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑	for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source: Matsushita Communication Industry Co.,Ltd **Date:** 18/10/2000

Subject: Application of ciphering during conformance testing and changes to integrity mode protection related messages

Work item:

Category: *(only one category shall be marked with an X)*			**Release:**	
F	Correction		Phase 2	
A	Corresponds to a correction in an earlier release		Release 96	
B	Addition of feature		Release 97	
C	Functional modification of feature	X	Release 98	
D	Editorial modification		Release 99	X
			Release 00	

Reason for change:

- ~~Following the comments from T1SIG #11 meeting, ciphering mechanism is activated for RRC test cases. Messages in Annex A are modified to enable ciphering during RRC radio bearer control and RRC connection re-establishment procedures.~~

- For section 8.1.7, the following modifications were made:

1. Corrections of message names: SECURITY MODE CONTROL COMMAND, SECURITY MODE CONTROL COMPLETE.
2. "Radio bearer downlink ciphering activation time info" IE should be found in SECURITY MODE COMMAND message, while "Radio bearer uplink ciphering activation time info" IE is present in SECURITY MODE COMPLETE message.
3. SECURITY MODE COMMAND message was updated to reflect approved changes in CR-311r2 ("Security Capability" IE) for TS 25.331 v3.2.0.
4. Some editorial changes.

- For the case of integrity mode protection, clause 8.2.1.1 needs to be revised with respect to CR-311r2 ("Security Capability" IE) for TS 25.331 v3.2.0 as well:

1. Value of "Integrity protection algorithm" IE in RADIO BEARER SETUP message is updated.
2. "Hyper Frame Number" IE in RADIO BEARER SETUP COMPLETE message was found to be missing. This IE is added to the message.

Changes made in revision 1 of this CR:

- During TSG T1#8 Plenary meeting held in Naantali, Finland, the issue of applying ciphering by default was discussed. It was decided that the activation of ciphering during conformance test is optional depending on the implementation conformance statement provided by UE manufacturers. Revision 1 of this CR provides the

	updates in accordance to this agreement. Messages updated include: RADIO BEARER SETUP (all types), RRC CONNECTION RE-ESTABLISHMENT (all types) and RRC CONNECTION RE-ESTABLISHMENT COMPLETE.
Clauses affected:	8.1.7, 8.2.1.1, Annex A

Other specs Affected:	Other 3G core specifications		→ List of CRs:	CR-009r1 to 34.108
	Other GSM core specifications		→ List of CRs:	
	MS test specifications	X	→ List of CRs:	
	BSS test specifications		→ List of CRs:	
	O&M specifications		→ List of CRs:	

Other comments:	

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.1.7 Security mode control

8.1.7.1 Definition

8.1.7.2 Conformance requirement

1. This procedure is used to trigger the start of ciphering or to commands the a change of the cipher key, both for the signalling link and for a user plane connection. The ciphering is configured in both directions.

2. The SRNC transmits a SECURITY MODE CONTROL COMMAND message to the UE, which indicates the uplink downlink Aactivation Ttime when the ciphering shall start to be applied in uplink. The UE shall apply the old ciphering configuration before the stated downlink activation time. It shall SRNC starts to decipher using the new ciphering configuration at the uplink downlink Aactivation Ttime.

3. When After the UE receives transmit the SECURITY MODE CONTROL COMPLETEMAND message, it starts to ciphering transmission in the uplink using the new configuration at the uplink Aactivation Ttime. It shall transmits a SECURITY MODE CONTROL COMPLETE message, which includes a downuplink Aactivation Ttime, and starts configure the downlink reception to receives in theusing new ciphering configuration at that the beginning of downlink Aactivation Ttime. When the SRNC receives the SECURITY MODE CONTROL COMPLETE, it starts ciphering transmission in the new configuration at the downlink Activation Time.

Reference

3GPP TS 25.331 clause 8.1.912

8.1.7.3 Test purpose

To confirm that the UE correctly communicates to the SS UTRAN using eachand activates the new ciphering functions configuration after the stated each Aactivation Time time. To confirm that when after the UE receives a SECURITY MODE CONTROL COMMAND message, which includes the uplink Activation Time anditransmits a SECURITY MODE CONTROL COMPLETE message to the UTRAN using the old ciphering configurationwhich includes the downlink Activation Time.

8.1.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the RRC connected state on the DCCELL_DCH. The SS transmits a SECURITY MODE COMMAND message in which ciphering is requested to be activated, but the IE"Ciphering algorithm" is set to an unknown value. The UE shall not trigger any ciphering algorithm and it shall respond by sending SECURITY MODE FAILURE message on the DCCH. Next, The SS transmits a valid SECURITY MODE CONTROL COMMAND message which includes the uplink downlink Aactivation Ttime for RB 23 and RB 34. Then the UE shall start to configure ciphering in updownlink after the Activation Time and transmits a SECURITY MODE CONTROL COMPLETE message which includes contains the downlink uplink Aactivation Ttime for RB 23 and RB 34. The UE starts to cipher in downlink after the Activation Time. Finally the UE correctly communicates using each ciphering functions. The UE shall be able to communicate with the SS in the downlink direction after the downlink activation time has passed. Moreover, it shall apply the ciphering algorithm in the uplink direction.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				RRC connected state on DCCH
2		←	SECURITY MODE ~~CONTROL~~ COMMAND	IE "Ciphering Algorithm" is set to an ~~spare~~ invalid value
3		→	SECURITY MODE FAILURE	IE "Failure Cause" should be set to "Protocol Error" and IE "Protocol Error Information" should be set to "Information element value not comprehended".
4		←	SECURITY MODE ~~CONTROL~~ COMMAND	See specific message contents. ~~For uplink transmissions, new ciphering configuration should be active after 255 frames from current CFN. SS checks to see~~
5		→	SECURITY MODE ~~CONTROL~~ COMPLETE	~~After the downlink Activation Time the downlink ciphering function is active.. SS starts to~~ verifies that this message is sent unciphered.
~~4~~6				~~Both Ciphering functions is active so the communication is done correctly..~~In uplink direction, SS checks that all data from RB ~~2~~3 and RB ~~3~~4 are ciphered. In the downlink direction, SS verifies that data are ciphered only after the RLC sequence numbers indicated in step 4 have elapsed.

Specific Message Contents

SECURITY MODE COMMAND (Step 2)

Information Element	Value/remark
Ciphering mode info	
Ciphering mode command	Start
~~Ciphering algorithm~~Security capability	1 of the 15 spare values
Activation time for DPCH	Not Present
Activation Time	
Radio bearer downlink ciphering activation time info	
Radio bearer activation time	2 RBs
RB identity$_1$	3
RLC sequence number$_1$	Current RLC SN + 2
RB identity$_2$	4
RLC sequence number$_2$	Current RLC SN + 2

SECURITY MODE COMMAND (Step 4)

Information Element	Value/remark
Ciphering mode command	Start
~~Ciphering algorithm~~Security capability	~~Standard UMTS Encryption Algorithm UEA1~~
Ciphering algorithm capability	0000000000000001B(UEA1)
Integrity protection algorithm capability	0000000000000001B(UEA1)
Activation time for DPCH	Not present~~Current CFN [current CFN mod 8 + 8]~~
Activation time	
Radio bearer downlink ciphering activation time info	
Radio bearer activation time	2 RBs
RB identity$_1$	~~2~~3
RLC sequence number$_1$	Current RLC SN+2~~Current downlink RLC Sequence Number for RB3~~
RB identity$_2$	~~3~~4
RLC sequence number$_2$	Current RLC SN+2~~Current downlink RLC Sequence Number for RB4~~

8.1.7.5 Test requirement

After step 2 the UE shall -transmit a SECURITY MODE FAILURE message to report protocol error detected in the earlier SECURITY MODE ~~CONTROL~~ COMMAND message. The UE shall be able to communicate normally with the SS, with all ~~user or~~ control data unciphered.

After step 4 the UE shall RLC-acknowledge the receipt of the SECRUITY MODE ~~CONTROL~~ COMMAND message using unciphered mode. SS checks that ~~T~~the SECURITY MODE ~~CONTROL~~ COMPLETE message is received unciphered.

After step 5 SS verifies that downlink control data from RB ~~2~~3 and RB ~~3~~4 are ciphered using UEA1 algorithm, after the RLC sequence numbers as a downlink activation time stated in step 4 have elapsed. In the uplink direction, the UE shall start to cipher on the uplink after the RLC sequence number as an uplink activation time stated in step 5 has elapsed.

8.2.1.1 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success(Data integrity protection algorithm is not applied)

8.2.1.1.1 Definition

8.2.1.1.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

(This is the case where data integrity protection algorithm is not applied.)

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.1.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8.2.1.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state, after the test operator is prompted to make an out-going call. Before step 1, only signalling radio bearers have been established. The SS transmits a RADIO BEARER SETUP message to the UE after it sets up L1 including the start of tx/rx. This message requests the establishment of RABs for carrying the traffic of the speech call. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	This message do not contain IE "integrity check info" and "integrity protection mode info"
2	→		RADIO BEARER SETUP COMPLETE	This message do not contain "integrity check info" and "Uplink integrity activation info
3				To confirm the communication.

Specific Message Contents

For RADIO BEARER SETUP in step 1, using the message sub-type indicated as "Speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" found in default message content clause.

8.2.1.1.5 Test requirement

After step2 the UE shall communicate with the SS on the radio bearer for its implementation.

8.2.1.2 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success(Effected Data integrity protection algorithm)

8.2.1.2.1 Definition

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8.2.1.2.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message, which applies data integrity function, and then communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 clause 8.2.1, 8.5.11.

8.2.1.2.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message which contains IE"Integrity check info" and IE"Integrity protection mode info" received from the SS.

8.2.1.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH and data integrity algorithm is not applied

Test Procedure

The UE is in the CELL_DCH state, after the test operator is prompted to make an out-going data call. Before step 1, only signalling radio bearers have been established. The SS transmits a RADIO BEARER SETUP message which is including IE"integrity check info" and "integrity protection mode info" to the UE after it sets up L1 including the start of tx/rx. This message requests the establishment of RABs for carrying the traffic of the call. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message which is including IE"integrity check info" using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	This message contain IE "integrity check info" and "integrity protection mode info"
2	→		RADIO BEARER SETUP COMPLETE	This message contain "integrity check info"
3				To confirm the communication.

Specific Message Contents

For RADIO BEARER SETUP in step 1, using the message sub-types indicated as "Speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" as found in default message content clause.

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to identical message sub-type found in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
Integrity check info	
- Message authentication code	Bit string (32) MAC-I See TS33.102
- RRC Message sequence number	0
Integrity protection mode info	Present
- Integrity protection mode command	"Start"
- Downlink integrity protection activation info	Not present (It is needed only when the IE"Integrity protection mode command" has the value "modify" .)
- integrity protection algorithm	~~UMTS Integrity Algorithm UIA1~~"0001_2":UIA1, Kasumi
- integrity protection initialisation number	Bit string (32) FRESH See TS33.102

RADIO BEARER SETUP COMPLETE

Information Element	Value/remark
Integrity check info	
- Message authentication code	Not checked(MAC-I See TS33.102)
- RRC Message sequence number	Not checked
Uplink Integrity protection activation info	Not checked
Hyper Frame Number	Not checked

8.2.1.2.5 Test requirement

After step2 the UE shall communicate with the SS on the radio bearer for its implementation. This can be verified by the correct reproduction of the u-plane data transmitted and received between the test operator and SS.

Annex A. Default RRC Message Contents

This clause contains the default values of RRC messages, other than those specified in TS 34.108 clauses 6 and 9. Unless indicated otherwise in specific test cases, they shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements which are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

Default SYSTEM INFORMATION:

NOTE 1: SYSTEM INFORMATION BLOCK TYPE 1 (except for PLMN type “GSM-MAP”), SYSTEM INFORMATION BLOCK TYPE 8, SYSTEM INFORMATION BLOCK TYPE 9, SYSTEM INFORMATION BLOCK TYPE 10, SYSTEM INFORMATION BLOCK TYPE 14, SYSTEM INFORMATION BLOCK TYPE 15 and SYSTEM INFORMATION BLOCK TYPE 16 messages are not used.

Contents of ACTIVE SET UPDATE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Maximum allowed UL TX power	33dBm
Radio link addition information	(This IE is repeated for addition RL number.)
- Primary CPICH info	
- Primary scrambling code	The value is for additional cell
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- TFCI combining indicator	TRUE
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	

- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- FACH/PCH information	
- TFS	(PCH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- TFS	(FACH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Octet mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- References to system information blocks	Not Present
- Scheduling information	
Radio link removal information	(This IE is repeated for removal RL number.)
- Primary CPICH info	
- Primary scrambling code	The value is for removal cell
TX Diversity Mode	None
SSDT information	Not Present

Contents of ACTIVE SET UPDATE COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information	Not checked

Contents of ACTIVE SET UPDATE FAILURE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	Value will be checked

Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not checked
AM_RLC error indication(for c-plane)	Not checked
AM_RLC error indication(for u-plane)	Not checked
Cell update cause	See the test content
Protocol error indicator	Not checked
Measured results on RACH	Not checked
Protocol error information	Not checked

Contents of CELL UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	Not Present
- SRNC identity	
- S-RNTI	
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator(for C-plane)	FALSE
RLC reset indicator(for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	0000 0000 0001B
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Maximum allowed UL TX power	33dBm
PRACH info	Not Present
- Available Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Available SF	
- Scrambling code number	
- Puncturing Limit	
- Available Sub Channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
Downlink information common for one radio link	Not Present
- Primary CPICH info	

- Primary scrambling code - PDSCH with SHO DCH info - DSCH radio link identifier - TFCI Combining set - Radio link identifier - Primary CPICH info - Primary scrambling code - PDSCH code mapping - Downlink DPCH info for each RL - Primary CPICH usage for channel estimation - Secondary CPICH info - Secondary scrambling code - channelisation code - DL channelisation code - Secondary scrambling code - Code number - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode - Secondary CCPCH info - Primary CPICH usage for channel estimation - Secondary CPICH info - Secondary scrambling code - channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset - References to system information blocks - Scheduling information	

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Measurement Identity Number	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Measurement Reporting/Event Trigger Reporting Mode	Event Trigger
Additional measurement list	
- CHOICE Measurement type	
- Intra-frequency measurement	
- Intra-frequency cell info	
- New intra-frequency cell	
- Intra-frequency cell-id	0
- cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Primary CPICH info	
- Primary scrambling code	150
- Primary CPICH Tx power	Not Present
- Read SFN number	FALSE
- TX Diversity indicator	FALSE
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored cells	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-CFN observed time difference	FALSE
- Reporting quantities for unlisted set cells	Not Present
- Reporting cell status	Not Present
- Measurement validity	Not Present
- Periodical reporting criteria	
- Amount of reporting	Infinity
- Reporting interval	Not Present
- Inter-system measurement	Not Present
- LCS measurement	Not Present
- Traffic Volume measurement	Not Present
- Quality measurement	Not Present
- UE internal measurement	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	See the test content

Contents of MEASUREMENT REPORT message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Measurement identity number	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0010B
- SFN-SFN observed time difference	Not checked
- Primary CPICH info	
- Primary scrambling code	150
- CPICH Ec/N0	Not checked
- CPICH RSCP	The presence should be checked
- Pathloss	Not checked
- CFN-SFN observed time difference	Not checked
CN domain identity	Not checked
NAS message	Not checked
Meqasured results on RACH	Not checked

Contents of PAGING TYPE1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	SMS
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE1 message: TM (SMS in PS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	SMS
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Paging cause	Terminating Speech Call
CN domain identity	CS domain
Paging Record Type identifier	Select the same type as in the IE “Initial UE Identity” in RRC CONNECTION REQUEST” message.

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TPGS status Flag	inactive

- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	

- TFCS - Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d - Power offset Pp-m	Not Present
- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
TGPS Status Flag	inactive

- TGMP	1
- TGPRC	FDD Measurement
- TGCFN	62
- TGSN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGL1	8
- TGL2	10
- TGD	5
- TGPL1	15
- TGPL2	35
- RPP	35
- ITPRM	Mode 1
- UL/DL Mode	Mode 1
- Downlink compressed mode method	DL
- Uplink compressed mode method	F/2
	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	

- TFCS - Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d - Power offset Pp-m	Not Present
- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5

- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	

- CTFC - Gain factor information - Gain factor •c - Gain factor •d - Power offset Pp-m	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5

- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	

- CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH power control info	Not Present
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	

- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set

- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH power control info	Not Present
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	

- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
--TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set

- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Message Type Other information element	 Not checked

Contents of RADIO BEARER SETUP message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted.~~Not Present(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	Start~~op~~
- Ciphering algorithm	Use one of the supported ciphering algorithms~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	Not Present~~(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present

- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)

- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0

- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPS	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35

- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	

- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted.~~Not Present(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	Start~~op~~
- Ciphering algorithm	Use one of the supported ciphering algorithms~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	Not Present~~(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	5
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present
- RLC info	

- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)

- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	

- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	

- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	

- SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset	
- TFCS	Not Present
- Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted.~~Not Present(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	start~~op~~
- Ciphering algorithm	Use one of the supported ciphering algorithms.~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	Not Present~~(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	5
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present

- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3

RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	

- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)

- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	

- Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset	
- TFCS	Not Present
- Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted~~Not Present(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	Start~~op~~
- Ciphering algorithm	Use one of the supported ciphering algorithms.~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	Not Present~~(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	5
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present

- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	6
- MAC logical channel priority	6
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	4
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	3

RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM CCCH for RRC)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	5
- MAC logical channel priority	1
RB information to be affected	(UM CCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	5
RB information to be affected	(TM BCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	6
RB information to be affected	(TM PCCH for RRC)
- RB identity	8
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	

- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3

- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive

- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- Normal	

- TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted~~Not Present(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	Start~~op~~
- Ciphering algorithm	Use one of the supported ciphering algorithms~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	Not Present~~(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	5
- RLC sequence number	Current RLC SN
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present

- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	6
- MAC logical channel priority	6
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	4
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	3

RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM CCCH for RRC)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	5
- MAC logical channel priority	1
RB information to be affected	(UM CCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	5
RB information to be affected	(TM BCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	6
RB information to be affected	(TM PCCH for RRC)
- RB identity	8
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	

- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3

- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive

- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- Normal	

- TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	~~Stop~~
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	Not Present
- RB identity	
- PDCP info	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)

- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM DTCH)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
- Transport channel identity	

Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB

- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	100
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	

- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	~~Stop~~
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	Not Present
- RB identity	
- PDCP info	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)

- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(DTCH TM)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(DTCH TM)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
RB information to be affected	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1

- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB

Deleted DL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2

- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	

- Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	~~Stop~~
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	Not Present
- RB identity	
- PDCP info	
- PDCP info	
- RLC info	
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1

- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(AM DTCH)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB

Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	

-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	

- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	~~Stop~~
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	(UM DCCH for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	

- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	

- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
-Logical channel identity	
UL Transport channel information for all transport	

channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	

- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH information	
- Transport channel identity	3
Deleted DL TrCH information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive

- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	

- TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION message : AM or UM(Packet to CELL_FACH from•CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	~~Stop~~
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	(UM DCCH for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	

- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	

- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	4
- Logical channel identity	6
- MAC logical channel priority	6
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	3
- Logical channel identity	1
RB information to reconfigure	(TM CCCH for RRC)
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	5
- MAC logical channel priority	1
RB information to reconfigure	(UM CCCH for RRC)
- RB identity	6
- PDCP info	Not Present
- RLC info	

- Downlink RLC mode	
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	5
RB information to reconfigure	(TM BCCH for RRC)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	6
RB information to reconfigure	(TM PCCH for RRC)
- RB identity	8
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set

- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	

- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	

- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible

- Timing offset	0
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM(Packet to CELL_FACH from•CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) Stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	(UM DCCH for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	

- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	

- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	4
- Logical channel identity	6
- MAC logical channel priority	6
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	3
- Logical channel identity	1
RB information to reconfigure	(TM CCCH for RRC)
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	5
- MAC logical channel priority	1
RB information to reconfigure	(UM CCCH for RRC)
- RB identity	6
- PDCP info	Not Present
- RLC info	

- Downlink RLC mode	
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	5
RB information to reconfigure	(TM BCCH for RRC)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	6
RB information to reconfigure	(TM PCCH for RRC)
- RB identity	8
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set

- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	

- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	

- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible

- Timing offset	0
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Other information element	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information list	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	~~stop~~
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	4
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2

- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition	

information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- DL DCH TFCS - Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC	(This IE is repeated for TFC number.) 0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information - Gain factor •c - Gain factor •d - Power offset Pp-m	 0 0 0dB
Deleted DL TrCH Information - Transport channel identity	 2
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS - Dynamic Transport format information - Number of Transport blocks - Bit mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	 (This IE is repeated for TFI number) Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target - BLER Quality value	 0.00
- Transparent mode signalling info	Not Present
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 Reference to TS34.108 clause 6.10 Parameter Set Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info - Uplink DPCH power control info - DPCCH power offset - PC Preamble - Power Control Algorithm - TPC step size - Scrambling code type - Scrambling code number - Number of DPDCH - spreading factor - TFCI existence - Number of FBI bit - Puncturing Limit	 -6dB 8slot Algorithm1 1dB Long 0 (0 to 16777215) Not Present(1) SF is reference to TS34.108 clause 6.10 Parameter Set TRUE Not Present(0) Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links - Downlink DPCH info common for all RL - Downlink DPCH power control information - DPC mode - Spreading factor - Fixed or Flexible Position - TFCI existence - Number of bits for Pilot bits(SF=128,256) - Downlink DPCH Offset Value - DPCH compressed mode info -TGPSI -TGPS Status Flg - TGMP - TGPRC - TGCFN	 0 (single) Reference to TS34.108 clause 6.10 Parameter Set N/A FALSE Reference to TS34.108 clause 6.10 Parameter Set 0 1 inactive FDD Measurement 62 (Current CFN + (256 – TTI/10msec)) mod 256

- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	

- TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	4
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Deleted UL TrCH Information	
- Transport channel identity	3
Deleted UL TrCH Information	
- Transport channel identity	4
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition	

information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information - Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH Information - Transport channel identity	2
Deleted DL TrCH Information - Transport channel identity	3
Deleted DL TrCH Information - Transport channel identity	4
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS - Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info - Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information - Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target - BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info - UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info - Uplink DPCH power control info - DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links - Downlink DPCH info common for all RL - Downlink DPCH power control information - DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info -TGPSI	1

-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present

- Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	4
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1

- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	

- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH Information	
- Transport channel identity	2
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10

- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	

- CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	4
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to release	
- RB identity	7
RB information to release	
- RB identity	8
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2

- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	

- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement

- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS	

Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	4
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	4
- Number of RLC logical channels	1

- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM CCCH for RRC)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	5
- MAC logical channel priority	1
RB information to be affected	(UM CCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	5
RB information to be affected	(TM BCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	6
RB information to be affected	(TM PCCH for RRC)
- RB identity	8
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	

- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Deleted DL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set

- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15

- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	

- Gain factor information - Gain factor •c - Gain factor •d	
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	4
RB information to be affected	(UM DCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	4
- Number of RLC logical channels	1

- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM CCCH for RRC)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	5
- MAC logical channel priority	1
RB information to be affected	(UM CCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	5
RB information to be affected	(TM BCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	6
RB information to be affected	(TM PCCH for RRC)
- RB identity	8
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Deleted UL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	

- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	Not Present
- Transport channel identity	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Bit mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- DCH quality target	
- BLER Quality value	
- Transparent mode signalling info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2

- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present

- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) Stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(UM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Downlink RLC mode	(UM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE

- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE

- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to

	TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set

- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2

- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present

Contents of RNTI REALLOCATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	See the test content
- SRNC identity	
- S-RNTI	
New C-RNTI	See the test content
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	

Contents of RNTI REALLOCATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information	Not checked

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Speech in CS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted from this message.~~Not Present(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	start~~op~~
- Ciphering algorithm	Use one of the supported ciphering algorithms~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	0
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(UM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Downlink RLC mode	(UM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)

- RB identity	1
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)

- RB identity	3
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1

- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- RB information to setup	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)

- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1

- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB

- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	4 bits
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter

	Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted from this message.~~Not Present(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	start~~op~~
- Ciphering algorithm	Use one of the supported ciphering algorithms~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	Not Present~~(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	0
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(UM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Downlink RLC mode	(UM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)

- RB identity	1
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)

- RB identity	3
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1

- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long

- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)

- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	This presence of this IE is dependent on IXIT statements in TS 34.123-2. If ciphering is indicated to be active, this IE present with the values of the sub IEs as stated below. Else, this IE is omitted.~~Not Present(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	start~~op~~
- Ciphering algorithm	Use one of the supported ciphering algorithms~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	Not Present~~(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	0
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(UM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Downlink RLC mode	(UM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)

- RB identity	1
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)

- RB identity	3
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	4
- PDCP info	Not Present
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1

- MAC logical channel priority	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long

- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)

- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Hyper frame number	Not checked
Radio bearer uplink ciphering activation time info	If ciphering is not activated in RRC CONNECTION RE-ESTABLISHMENT message, this IE must be absent. Else, SS checks this IE for the presence of activation times of all ciphered uplink RLC-UM and RLC-AM RBs ~~Value should not be present unless otherwise stated.~~
RB with PDCP information list - RB with PDCP information	Not checked

Contents of RRC CONNECTION RE-ESTABLISHMENT REQUEST message: TM

Information Element	Semantics description
Message Type	
U-RNTI	Value is checked to see if it is equal to the previously assigned U-RNTI
Integrity check info	Not checked
AM_RLC error indication(for C-plane)	Not checked
AM_RLC error indication(for U-plane)	Not checked
Protocol error indicator	Value is checked to see if it is set to FALSE.
Measured results on RACH	Not checked.
Protocol error information	Should be absent as “Protocol error indicator” = FALSE

Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
Initial UE identity	Set to the UE's IMSI (GSM-MAP) or TMSI.
Rejection cause	Unspecified
Wait Time	0
Redirection info	Not Present

Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_FACH)

Information Element	Value/remark
Message Type	
Initial UE identity	Reference to TS34.108 clause 6.10 Parameter Set
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
UTRAN DRX cycle length coefficient	5 (2 to 12)
Capability update requirement	
- UE radio access capability update requirement	FALSE
- System specific capability update requirement	Not Present
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(UM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Downlink RLC mode	(UM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	2
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)

- RB identity	2
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	4
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(AM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Transmission window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	100
- Downlink RLC mode	(AM RLC)
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
Signalling RB information to setup	(TM CCCH for RRC)

- RB identity	5
- CHOICE RLC info type	
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Transport channel identity	1
- Logical channel identity	5
- MAC logical channel priority	1
Signalling RB information to setup	(UM CCCH for RRC)
- RB identity	6
- CHOICE RLC info type	
- RLC info	
- Uplink RLC mode	(UM RLC)
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	5
Signalling RB information to setup	(TM BCCH for RRC)
- RB identity	7
- CHOICE RLC info type	
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	6
Signalling RB information to setup	(TM PCCH for RRC)
- RB identity	8
- CHOICE RLC info type	
- RLC info	
- Downlink RLC mode	(TM RLC)
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)

- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set

- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink information for each radio links	Not Present
- Primary CPICH info	
- Primary scrambling code	
- PDSCH with SHO DCH info	
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	
- DL Scrambling Code	
- Signalling Method	
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	

<table>
<tr><td>- Secondary CPICH info
- Secondary scrambling code
- channelisation code
- DL channelisation code
- Secondary scrambling code
- Code number
- TPC combination index
- SSDT Cell Identity
- Closed loop timing adjustment mode
- Secondary CCPCH info
- Primary CPICH usage for channel estimation
- Secondary CPICH info
- Secondary scrambling code
- channelisation code
- Secondary scrambling code
- SSDT Indicator
- Spreading factor
- Code number
- Pilot symbol existence
- TFCI existence
- Fixed or Flexible Position
- Timing offset</td><td></td></tr>
<tr><td>- TFCS
- Normal
- TFCI Field 1 information(Explicit TFCS Configuration)
- Addition
- TFCS addition information(Reconfiguration/Addtion information)
- CTFC information
- CTFC
- Gain factor information
- Gain factor •c
- Gain factor •d</td><td>Not Present</td></tr>
<tr><td>- FACH/PCH information
- TFS
- Dynamic Transport format information
- Number of Transport blocks
- Octet mode RLC size info
- Transport block size
- Semi-static Transport Format information
- Transmission time interval
- Type of channel coding
- Coding Rate
- Rate matching attribute
- CRC size
- TFS
- Dynamic Transport format information
- Number of Transport blocks
- Octet mode RLC size info
- Transport block size
- Semi-static Transport Format information
- Transmission time interval
- Type of channel coding
- Coding Rate
- Rate matching attribute
- CRC size
- Scheduling information</td><td>Not Present</td></tr>
</table>

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked.
Protocol error information	
- Protocol error cause	Value will be checked.

Contents of SECURITY MODE FAILURE message : AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	Value will be checked

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) Stop~~
- Ciphering mode command	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Ciphering algorithm	~~Not Present(Used RLC-TM)~~
- Activation time for DPCH	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCO info	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all	

transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0

- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	

- Timing offset - TFCS - Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	Not Present
- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed)~~
- Ciphering mode command	~~Stop~~
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	

-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	

- TFCS - Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	Not Present
- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) Stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all	

transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	

-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	

- TFCS - Normal - TFCI Field 1 information(Explicit TFCS Configuration) - Addition - TFCS addition information(Reconfiguration/Addtion information) - CTFC information - CTFC - Gain factor information - Gain factor •c - Gain factor •d	Not Present
- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) Stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set

- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- Power offset Pp-m	0dB
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	

- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	No code change
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	

- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- Octet mode RLC size info	
- Transport block size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) Stop~~
- Ciphering mode command	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Ciphering algorithm	~~Not Present(Used RLC-TM)~~
- Activation time for DPCH	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1

- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	

- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) Stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- Gain factor information	
- Gain factor •c	0
- Gain factor •d	0
- DL DCH TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	
- Power offset Pp-m	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flg	inactive
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1

- ITPRM	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	F/2
- Scrambling code change	
- Downlink frame type	
- DeltaSIR1	
- DeltaSIRafter1	
- TX Diversity mode	
- SSDT information	
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- Normal	
- TFCI Field 1 information(Explicit TFCS Configuration)	
- Addition	
- TFCS addition information(Reconfiguration/Addtion information)	
- CTFC information	
- CTFC	
- Gain factor information	
- Gain factor •c	
- Gain factor •d	

- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - Octet mode RLC size info - Transport block size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Other information element	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information list	Not checked

Contents of TRANSPORT FORMAT COMBINATION CONTROL message : AM or UM (in CELL_DCH)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- Message authentication code	
- RRC Message sequence number	
DPCH TFCS in Uplink	
- Allowed Transport format combination index	0 (The TFC is constructed from ALL TF0)

Contents of UE CAPABILITY ENQUIRY message : [TBD]

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Capability update requirement	
- UE radio access capability update requirement	TRUE
- System specific capability update requirement	UE only supports 1 system
list	
- System specific capability update requirement	GSM

Contents of UE CAPABILITY INFORMATION message : AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
UE radio access capability	Value will be checked. Stated capability must be compatible with 34.123-2 (c.f. PICS/PIXIT statements in GSM) and the user settings
- Conformance test compliance	
- PDCP Capability	
- RLC Capability	
- Transport channel capability	
- RF Capability	
- Physical channel capability	
- UE multi-mode/multi-RAT capability	
- Security Capability	
- LCS Capability	
- Measurement capability	
UE system specific capability	Value will be check. UE must include the classmark information for the supported system

Contents of UE CAPABILITY INFORMATION CONFIRM message : UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked

Contents of URA UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not checked
AM_RLC error indication	Not checked
URA update cause	See the test content
Protocol error indicator	Not checked
Protocol error information	Not checked

Contents of URA UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present~~(If ciphering is applied, this IE is needed) stop~~
- Ciphering mode command	
- Ciphering algorithm	~~Not Present(Standard UMTS Encryption Algorithm UEA1)~~
- Activation time for DPCH	~~Not Present(Used RLC-TM)~~
- Radio bearer downlink ciphering activation time info	~~Not Present(Used RLC-AM or RLC-UM)~~
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	Not Present
- SRNC identity	
- S-RNTI	
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	See the test content
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000
3GPP TSG-T1/SIG Meeting #14
Redondo Beach, CA, USA, 13-15 Nov. 2000

Document T1-000288
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

Tdoc T1S000239

CR-Form-v3

CHANGE REQUEST

⌘ **34.123-1** **CR** **038** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Idle Mode test cases in chapter 6
Source:	⌘	Ericsson
Work item code:	⌘	***Date:*** ⌘ 2000-11-11
Category:	⌘	**F** ***Release:*** ⌘ R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘
- Editoral changes: “SIM” has been changed to “USIM” and “MS” has been changed to “UE” except in Conformance requirements which shall remain a copy of core specifications.
- “6.1.2 Radio access mode selection and reselection” is removed, as no tests for TDD have yet been planned
- Split of 6.1.1.1 (Manual PLMN selection) into 6.1.1.1 (RPLMN, HPLMN, UPLMN and OPLMN) and 6.1.1.2 (“Other PLMN / access technology combinations”)
- Split of 6.1.1.3 (Automatic PLMN selection) into 6.1.1.4 (RPLMN, HPLMN, UPLMN and OPLMN) and 6.1.1.5 (“Other PLMN / access technology combinations”)
- New test cases in Cell selection/reselection: 6.1.2.5 and 6.1.2.6
- New test cases in UTRAN/GSM PLMN selection: 6.2.1.1-6.2.1.10

Summary of change: ⌘ New test cases added and editoral changes

Consequences if not approved: ⌘

Clauses affected: ⌘ 6.1.1, 6.1.2, 6.2.1

Other specs affected: ⌘
☐ Other core specifications ⌘
☐ Test specifications
☐ O&M Specifications

Other comments: ⌘

~~**Table 6.1.3.2: Downlink Physical Channels**~~

~~Physical Channel~~	~~Power~~	~~NOTE~~
~~CPICH~~	~~CPICH_Ec/Ior = -10 dB~~	
~~PCCPCH~~	~~PCCPCH_Ec/Ior = -12 dB~~	
~~SCCPCH~~	~~SCCPCH_Ec/Ior = -12 dB~~	
~~AICH~~	~~AICH_Ec/Ior = -15 dB~~	
~~SCH~~	~~SCH_Ec/Ior = -12 dB~~	~~This power shall be divided equally between Primary and Secondary Synchronization channels~~
~~PICH~~	~~PICH_Ec/Ior = -15 dB~~	
~~DPCH~~	~~Test dependent power~~	
~~OCNS~~	~~Necessary power so that total transmit power spectral density of BS (Ior) adds to one~~	

~~**Table 6.1.3.3: Default radio conditions**~~

~~Parameter~~	~~Unit~~	~~Value~~
~~I_{oc}~~	~~dBm/3.84 MHz~~	~~-70~~
~~*Propagation Condition*~~		~~Static~~

It is a UE option whether to indicate access technologies to the user (TS 23.122, 4.4.3.1.2). Therefore, for combined UTRAN/GSM tests, it is indicated in parentheses which access technology shall be indicated to the user if the UE has this capability.

6.1 In a pure 3GPP environment

6.1.1 PLMN selection and reselection

6.1.1.1 PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN; Manual mode

6.1.1.1.1 Definition

Test to verify that the UE can present the available PLMNs in priority order to the user when asked to do so in manual mode and that the displayed PLMNs can be selected / reselected by the user. Forbidden PLMNs shall also by displayed in the list. If available, the RPLMN shall be selected at switch-on, otherwise the displayed list shall include in priority order HPLMN, User-PLMN and Operator-PLMN. The last priority in the list is “Other PLMN/access technology combinations” which is not included in this test.

Only UTRAN cells and a UE equipped with a USIM with Radio Access Technology fields set to UTRAN are considered.

6.1.1.1.2 Conformance requirement

1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.

   On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.

   If successful registration is achieved, the MS indicates the selected PLMN.

If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes "Forbidden PLMNs" and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

2.1 HPLMN;

2.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

2.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

2.4 Other PLMN/access technology combinations with received high quality signal in random order;

2.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the forbidden LAI and PLMN lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

3. If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".

References

1. TS 23.122, 4.4.3.1

2. TS 23.122, 4.4.3.1.2

3. TS 23.122, 3.1

NOTE: TS 31.102 defines the USIM fields

6.1.1.1.3 Test purpose

1. To verify that if available, the RPLMN is selected at switch-on.

2. To verify that in Manual Network Selection Mode Procedure, the UE presents the HPLMN, UPLMN and OPLMN in a prioritized order.

3. To verify that forbidden PLMNs are also displayed in the list.

6.1.1.1.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

All Radio Access Technology USIM fields and cells are UTRAN.

Parameters changed from the default values in table 6.1.3.1.

Cell	PLMN
Cell 1	PLMN 1
Cell 2	PLMN 2
Cell 3	PLMN 3
Cell 4	PLMN 4
Cell 5	PLMN 5
Cell 6	PLMN 6

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN
EF_{LOCI}		PLMN 1
$EF_{HPLMNwAcT}$	1st	PLMN 2
$EF_{PLMNwACT}$	1st	PLMN 3
	2nd	PLMN 4
$EF_{OPLMNwACT}$	1st	PLMN 5
	2nd	PLMN 6
EF_{FPLMN}	PLMN 3	

NOTE: PLMN 3 is forbidden.

Test procedure

a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) The SS waits for random access requests from the UE

d) Cell 1 is switched off

e) PLMN 4 shall be selected when the PLMN list is presented

f) The SS waits for random access requests from the UE

g) Cell 4 is switched off

h) PLMN 3 shall be selected when the PLMN list is presented. The SS shall reject the Registration Request from the UE.

i) PLMN 5 shall be selected (the list is already available)

j) The SS waits for random access requests from the UE

k) Cell 5 is switched off

l) PLMN 2 shall be selected when the PLMN list is presented

m) The SS waits for random access requests from the UE

n) Cell 2 is switched off

o) PLMN 6 shall be selected when the PLMN list is presented

p) The SS waits for random access requests from the UE

q) Cell 6 is switched off

6.1.1.1.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN 1 within [FFS seconds].

2) In step e), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 2, PLMN 3, PLMN 4, PLMN 5, PLMN 6.

3) In step f), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 4 within [FFS seconds].

4) In step h), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 2, PLMN 3, PLMN 5, PLMN 6. After PLMN 3 has been selected, the list shall appear again as the UE cannot perform registration.

6) In step j), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN 5 within [FFS seconds].

7) In step l), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 2, PLMN 3, PLMN 6.

8) In step m), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN 2 within [FFS seconds].

9) In step o), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 3, PLMN 6.

10) In step p), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 6 within [FFS seconds].

11) After step q), the UE shall inform within [FFS seconds] that only limited service is possible.

6.1.1.2 PLMN selection of “Other PLMN / access technology combinations”; Manual mode

6.1.1.2.1 Definition

Test to verify that the UE can present the available PLMNs in priority order to the user when asked to do so in manual mode and that the displayed PLMNs can be selected / reselected by the user. Forbidden PLMNs shall also by displayed in the list. In this test are only considered “Other PLMN/access technology combinations” in the priority list.

Only UTRAN cells and a UE equipped with a USIM with Radio Access Technology fields set to UTRAN are considered.

6.1.1.2.2 Conformance requirement

1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.

   On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.

   If successful registration is achieved, the MS indicates the selected PLMN.

   If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Manual Network Selection Mode Procedure:

The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes "Forbidden PLMNs" and PLMNs which only offer services not supported by the MS.

If displayed, PLMNs meeting the criteria above are presented in the following order:

2.1 HPLMN;

2.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

2.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

2.4 Other PLMN/access technology combinations with received high quality signal in random order;

2.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the forbidden LAI and PLMN lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

3. If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".

References

1. TS 23.122, 4.4.3.1
2. TS 23.122, 4.4.3.1.2
3. TS 23.122, 3.1

NOTE: TS 31.102 defines the USIM fields

6.1.1.2.3 Test purpose

1. To verify that in Manual Network Selection Mode Procedure, the UE presents “Other PLMN/access technology combinations” in a prioritized order according to conformance requirement 2.4 and 2.5.
2. To verify that forbidden PLMNs are also displayed in the list.

6.1.1.2.4 Method of test

Initial conditions

The UE is in automatic mode.

All Radio Access Technology USIM fields and cells are UTRAN.

Parameters changed from the default values in table 6.1.3.1.

Cell	*CPICH_Ec/Io [dB]*	PLMN
Cell 1	-15	PLMN 6
Cell 2	-15	PLMN 7
Cell 3	-15	PLMN 8
Cell 4	-16	PLMN 9
Cell 5	-17	PLMN 10
Cell 6	-18	PLMN 11

NOTE: Cell 1 is OPLMN 2nd priority. HQ signal [FFS] is on Cell 2-3 but not on Cell 4-6.

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN
EF_{LOCI}		PLMN 1
$EF_{HPLMNwAcT}$	1st	PLMN 2
$EF_{PLMNwACT}$	1st	PLMN 3
	2nd	PLMN 4
$EF_{OPLMNwACT}$	1st	PLMN 5
	2nd	PLMN 6
EF_{FPLMN}	PLMN 10	

NOTE: PLMN 10 is forbidden.

Test procedure

a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) PLMN 9 shall be selected when the PLMN list is presented

d) The SS waits for random access requests from the UE

e) Cell 4 is switched off

f) PLMN 7 shall be selected when the PLMN list is presented

g) The SS waits for random access requests from the UE

h) Cell 2 is switched off

i) PLMN 6 shall be selected when the PLMN list is presented

j) The SS waits for random access requests from the UE

k) Cell 1 is switched off

l) PLMN 11 shall be selected when the PLMN list is presented

m) The SS waits for random access requests from the UE

n) Cell 6 is switched off

o) PLMN 10 shall be selected when the PLMN list is presented. The SS shall reject the Registration Request from the UE.

p) Cell 5 is switched off

q) PLMN 8 shall be selected (the list is already available)

r) The SS waits for random access requests from the UE

s) Cell 3 is switched off

6.1.1.2.5 Test Requirements

1) In step c), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 6 followed by PLMN 7, PLMN 8 in random order, followed by PLMN 9, PLMN 10, PLMN 11.

2) In step d), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 9 within [FFS seconds].

3) In step f), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 6 followed by PLMN 7, PLMN 8 in random order, followed by PLMN 10, PLMN 11.

4) In step g), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN 7 within [FFS seconds].

5) In step i), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 6, PLMN 8, PLMN 10, PLMN 11.

6) In step j), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN 6 within [FFS seconds].

7) In step l), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 8, PLMN 10, PLMN 11.

8) In step m), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 11 within [FFS seconds].

9) In step o), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN 8, PLMN 10. After PLMN 10 has been selected, the list shall appear again as the UE cannot perform registration.

10) In step q), the list shall be presented within [FFS seconds] and shall only contain PLMN 8.

11) In step r), the UE shall respond on Cell 3. The displayed PLMN shall be PLMN 8 within [FFS seconds].

12) After step s), the UE shall inform within [FFS seconds] that no network is available.

~~6.1.1.1 Manual mode PLMN selection / re-selection and UE indication of available PLMNs~~

~~6.1.1.1.1 Definition~~

~~Test to verify that the UE can present the available PLMNs to the user when asked to do so in manual mode and that the displayed PLMNs can be selected. If a "PLMN not allowed" or a PLMN with "LA not allowed" is selected, the UE shall enter limited service.~~

~~6.1.1.1.2 Conformance requirement~~

~~1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.~~

~~On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.~~

~~If successful registration is achieved, the MS indicates the selected PLMN.~~

~~If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.~~

2. Manual mode - Here the MS indicates to the user which PLMNs are available. Only when the user makes a manual selection does the MS try to obtain normal service on the VPLMN.

3. Manual Network Selection Mode Procedure:

   The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes "Forbidden PLMNs" and PLMNs which only offer services not supported by the MS.

   If displayed, PLMNs meeting the criteria above are presented in the following order:

   3.1 HPLMN;

   3.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   3.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   3.4 Other PLMN/access technology combinations with received high quality signal in random order;

   3.5 Other PLMN/access technology combinations in order of decreasing signal quality.

   The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the forbidden LAI and PLMN lists.

   If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

4. To prevent repeated attempts to have roaming service on a not allowed LA, when the MS is informed that an LA is forbidden, the LA is added to a list of "forbidden LAs for roaming" which is stored in the MS. This list is deleted when the MS is switched off or when the SIM is removed. Such area restrictions are always valid for complete location areas independent of possible subdivision into GPRS routing areas.

   If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".

References

1. TS 23.122, 4.4.3.1

2. TS 23.122, 3.1

3. TS 23.122, 4.4.3.1.2

4. TS 23.122, 3.1

NOTE: TS 31.102 defines the USIM fields

6.1.1.1.3 Test purpose

1. To verify that if no RPLMN exists at power on, the UE shall camp on any acceptable cell and enter the limited service state.

2. To verify that in Manual Network Selection Mode Procedure the UE presents PLMNs in a prioritized order.

3. To verify that if a PLMN with LA rejection “LA not allowed” or “PLMN not allowed” is selected, the UE enters limited service.

6.1.1.1.4 Method of test

Initial conditions

The UE is in manual mode.

The SIM fields $EF_{UPLMNsel}$ (UPLMN selector), $EF_{OPLMNsel}$ (OPLMN selector) and $EF_{PHPLMNAT}$ (Preferred HPLMN Access Technology) shall only contain UTRAN as the Access Technology Identifier.

The SIM fields $EF_{UPLMNsel}$ and $EF_{OPLMNsel}$ shall only contain one PLMN as indicated in the table.

PLMN 1 is the HPLMN (i.e. IMSI). There is no RPLMN stored in the SIM (i.e. field EF_{BCCH}).

The UE is equipped with a SIM containing default values except for those values listed in table [FFS].

Parameters changed from the default values in table 6.1.3.1 and table [FFS].

Parameter	**Unit**	**Cell 1**	**Cell 2**	**Cell 3**	**Cell 4**	**Cell 5**
$\hat{I}_{or}/I_{oc}$	dB	2.5	4.5	7.5		
CPICH_Ec/Io	dB	-18	-16	-13	[FFS: High Q signal]	[FFS: Not high Q signal]
CPICH RSCP	dBm	-78	-76	-73		
Qqualmin	dB	-20	-20	-20		
Qrxlevmin	dBm	-100	-100	-100		
Squal	dB	2	4	7		
Srxlev	dBm	22	24	27		
PLMN		PLMN 1	PLMN 2	PLMN 3	PLMN 4	PLMN 5
SIM field for storing PLMN		EF_{IMSI} (IMSI)	$EF_{UPLMNsel}$ (UPLMN selector)	$EF_{OPLMNsel}$ (OPLMN selector)	Other PLMN than on the SIM	Other PLMN than on the SIM

Test procedure

a) The SS activates cells 1-4

b) The UE is switched on

c) The SS waits until UE says "Emergency calls only"

d) The UE is requested to display the PLMN list. PLMN 1 is selected manually

e) The SS sends SYSTEM INFORMATION to the UE to inform it that PLMN 1 belongs to a "LA not allowed"

f) The SS waits until UE says "Emergency calls only"

g) Step d-g) is repeated except that in d), PLMN 2 is selected and in e), the UE is informed that PLMN 2 belongs to a "PLMN not allowed"

h) Step d-g) is repeated except that in d), PLMN 3 is selected and in e), the UE is informed that PLMN 3 belongs to a "LA not allowed"

i) Step d-g) is repeated except that in d), PLMN 4 is selected and in e), the UE is informed that PLMN 4 belongs to a "LA not allowed"

j) Step d-g) is repeated except that in d), PLMN 5 is selected and in e), the UE is informed that PLMN 5 belongs to a "LA not allowed"

6.1.1.1.5 Test Requirements

1) In step d), the selected PLMN shall be displayed as PLMN 1 within 2 min.

~~[Editor's note: The 2 min. must be confirmed]~~

~~2) In step g), the selected PLMN shall be displayed as PLMN 2 within 2 min.~~

~~3) In step h), the selected PLMN shall be displayed as PLMN 3 within 2 min.~~

~~4) In step i), the selected PLMN shall be displayed as PLMN 4 within 2 min.~~

~~5) In step i), the selected PLMN shall be displayed as PLMN 5 within 2 min.~~

~~[Editor's note: The time 2 min is taken from the GSM 11.10-1, test case 26.3.4]~~

~~[Editor's note: It is assumed that the displayed PLMN reflects the cell camped on and that it is not necesary to test that the UE actually camps on that cell]~~

6.1.1.32 ~~Manual mode~~ PLMN selection / reselection; independence of RF level and preferred PLMN; Manual mode

6.1.1.32.1 Definition

Test to verify that in Manual Network Selection Mode, the UE is able to obtain normal service on a PLMN which is neither the better nor a preferred PLMN and that it tries to obtain service on a VPLMN if and only if the user selects it manually.

6.1.1.32.2 Conformance requirement

1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.

   On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.

   If successful registration is achieved, the MS indicates the selected PLMN.

   If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Manual mode - Here the MS indicates to the user which PLMNs are available. Only when the user makes a manual selection does the MS try to obtain normal service on the VPLMN.3. Manual Network Selection Mode Procedure:

   The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes "Forbidden PLMNs" and PLMNs which only offer services not supported by the MS.

   If displayed, PLMNs meeting the criteria above are presented in the following order:

   1.1 HPLMN;

   1.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   1.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   1.4 Other PLMN/access technology combinations with received high quality signal in random order;

   1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the forbidden LAI and PLMN lists.

References

1. TS 23.122, 4.4.3.1
2. TS 23.122, 3.1
3. TS 23.122, 4.4.3.1.2

NOTE: TS 31.102 defines the USIM fields

6.1.1.32.3 Test purpose

1. To verify that the selected PLMN at switch-on is the HPLMN
2. To verify that in Manual Network Selection Mode Procedure the UE tries to obtain service on a VPLMN if and only if the user selects it manually
3. To verify that the UE is able to obtain normal service on a PLMN which is neither the better nor a prefered PLMN.

6.1.1.32.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

PLMN 1 is the HPLMN (i.e. IMSI). There is no RPLMN stored in the USIM (i.e. field EF_{BCCH}).

PLMN 2 is not contained in any preferred PLMN list on the USIM.

PLMN 3 is contained in the UPLMN selector list on the USIM and has a different MCC-MNC from PLMN 1.

The UE is equipped with a USIM containing default values except for those values listed in table [FFS].

Parameters changed from the default values in table 6.1.3.1 and table [FFS].

Parameter	Unit	Cell 1			Cell 2
		T1	T2	T3	
UTRA RF Channel Number		UARFCN 1			UARFCN 2
$\hat{I}_{or}/I_{oc}$	dB	-4.74	-	0.02	-7.25
CPICH_Ec/Io	dB	-16	OFF	-13	-18
CPICH RSCP	dBm	-85	-	-80	-87
Qqualmin	dB	-20	-	-20	-20
Qrxlevmin	dBm	-100	-	-100	-100
Squal	dB	4	-	7	2
Srxlev	dBm	15	-	20	13
PLMN		PLMN 1	-	PLMN 3	PLMN 2

Test procedure

a) The SS activates cells 1 and 2 with T1 defined parameters.

b) The UE is switched on.

c) PLMN 1 is selected

d) The SS waits for RRC CONNECTION REQUEST from the UE. A complete Location Update is done.

e) Cell 1 is switched off as described for T2.

f) The SS waits to see if there is any RRC CONNECTION REQUEST from the UE

g) Cell 1 is switched on and set according to T3

h) The SS waits to see if there is any RRC CONNECTION REQUEST from the UE

i) PLMN 2 is selected manually

j) The SS waits for RRC CONNECTION REQUEST from the UE. A complete Location Update is done.

k) Cell 2 is switched off

l) The SS waits to see if there is any RRC CONNECTION REQUEST from the UE

6.1.1.~~3~~2.5 Test Requirements

1) In step d), there shall be a response on Cell 1 within 2 min. The selected PLMN shall be PLMN 1.

2) In step f), there shall be no response from the UE within 2 min.

3) In step h), there shall be no response from the UE within 2 min.

4) In step j), there shall be a response on Cell 2 within 2 min. The selected PLMN shall be PLMN 2.

5) In step l), there shall be no response from the UE within 2 min.

[Editor's note: The time 2 min is taken from the GSM 11.10-1, test case 26.3.4]

6.1.1.4 PLMN selection of RPLMN, HPLMN, UPLMN and OPLMN; Automatic mode

6.1.1.4.1 Definition

Test to verify that in Automatic Network Selection Mode, the UE selects PLMNs in a prioritized order. Forbidden PLMNs shall not be selected. If available, the RPLMN shall be selected at switch-on, otherwise the list shall include in priority order HPLMN, User-PLMN and Operator-PLMN. The last priority in the list is "Other PLMN/access technology combinations" which is not included in this test.

Only UTRAN cells and a UE equipped with a USIM with Radio Access Technology fields set to UTRAN are considered.

6.1.1.4.2 Conformance requirement

1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.

   On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.

   If successful registration is achieved, the MS indicates the selected PLMN.

   If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Automatic Network Selection Mode Procedure:

The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

2.1 HPLMN (if not previously selected);

2.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

2.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

2.4 Other PLMN/access technology combinations with received high quality signal in random order

2.5 Other PLMN/access technology combinations in order of decreasing signal quality

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in a forbidden LAI list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

3. If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".

References

1. TS 23.122, 4.4.3.1
2. TS 23.122, 4.4.3.1.1
3. TS 23.122, 3.1

NOTE: TS 31.102 defines the USIM fields

6.1.1.4.3 Test purpose

1. To verify that if available, the RPLMN is selected at switch-on.
2. To verify that in Automatic Network Selection Mode Procedure, the UE selects the RPLMN, HPLMN, UPLMN and OPLMN in a prioritized order.
3. To verify that forbidden PLMNs are not selected.

6.1.1.4.4 Method of test

Initial conditions

The UE is in automatic mode.

MCC of HPLMN shall be different from other PLMNs in the network to avoid periodic search for HPLMN.

All Radio Access Technology USIM fields and cells are UTRAN.

Parameters changed from the default values in table 6.1.3.1.

Cell	PLMN
Cell 1	PLMN 1
Cell 2	PLMN 2
Cell 3	PLMN 3
Cell 4	PLMN 4
Cell 5	PLMN 5
Cell 6	PLMN 6

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN
EF_{LOCI}		PLMN 1
$EF_{HPLMNwAcT}$	1st	PLMN 2
$EF_{PLMNwACT}$	1st	PLMN 3
	2nd	PLMN 4
$EF_{OPLMNwACT}$	1st	PLMN 5
	2nd	PLMN 6
EF_{FPLMN}	PLMN 3	

NOTE: PLMN 3 is forbidden.

Test procedure

a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) The SS waits for random access requests from the UE

d) Cell 1 is switched off

e) The SS waits for random access requests from the UE

f) Cell 2 is switched off

g) The SS waits for random access requests from the UE

i) Cell 4 is switched off

j) The SS waits for random access requests from the UE

k) Cell 5 is switched off

l) The SS waits for random access requests from the UE

m) Cell 6 is switched off

6.1.1.4.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN 1 within [FFS seconds].

2) In step e), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN 2 within [FFS seconds].

3) In step g), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 4 within [FFS seconds].

4) In step j), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN 5 within [FFS seconds].

5) In step l), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 6 within [FFS seconds].

6) After step m), the UE shall inform within [FFS seconds] that only limited service is possible

6.1.1.5 PLMN selection of “Other PLMN / access technology combinations”; Automatic mode

6.1.1.5.1 Definition

Test to verify that in Automatic Network Selection Mode, the UE selects PLMNs in a prioritized order. Forbidden PLMNs shall not be selected. In this test are only considered “Other PLMN/access technology combinations” in the priority list.

Only UTRAN cells and a UE equipped with a USIM with Radio Access Technology fields set to UTRAN are considered.

6.1.1.5.2 Conformance requirement

1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.

   On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.

   If successful registration is achieved, the MS indicates the selected PLMN.

   If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Automatic Network Selection Mode Procedure:

   The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

   2.1 HPLMN (if not previously selected);

   2.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

   2.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

   2.4 Other PLMN/access technology combinations with received high quality signal in random order

   2.5 Other PLMN/access technology combinations in order of decreasing signal quality

   If successful registration is achieved, the MS indicates the selected PLMN.

   If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

   If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in a forbidden LAI list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

3. If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".

References

1. TS 23.122, 4.4.3.1
2. TS 23.122, 4.4.3.1.1
3. TS 23.122, 3.1

NOTE: TS 31.102 defines the USIM fields

6.1.1.5.3 Test purpose

1. To verify that in Automatic Network Selection Mode Procedure, the UE selects "Other PLMN/access technology combinations" in a prioritized order according to conformance requirement 2.4 and 2.5.
2. To verify that forbidden PLMNs are not selected.

6.1.1.5.4 Method of test

Initial conditions

The UE is in automatic mode.

MCC of HPLMN shall be different from other PLMNs in the network to avoid periodic search for HPLMN.

All Radio Access Technology USIM fields and cells are UTRAN.

Parameters changed from the default values in table 6.1.3.1.

Cell	*CPICH_Ec/Io [dB]*	PLMN
Cell 1	-15	PLMN 6
Cell 2	-15	PLMN 7
Cell 3	-15	PLMN 8
Cell 4	-16	PLMN 9
Cell 5	-17	PLMN 10
Cell 6	-18	PLMN 11

NOTE: Cell 1 is OPLMN 2nd priority. HQ signal [FFS] is on Cell 2-3 but not on Cell 4-6.

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN
EF_{LOCI}		PLMN 1
$EF_{HPLMNwAcT}$	1st	PLMN 2
$EF_{PLMNwACT}$	1st	PLMN 3
	2nd	PLMN 4
$EF_{OPLMNwACT}$	1st	PLMN 5
	2nd	PLMN 6
EF_{FPLMN}	PLMN 10	

NOTE: PLMN 10 is forbidden.

Test procedure

a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) The SS waits for random access requests from the UE

d) Cell 1 is switched off

e) The SS waits for random access requests from the UE

f) The cell associated to the currently shown PLMN shall be switched off

g) The SS waits for random access requests from the UE

h) The cell associated to the currently shown PLMN shall be switched off

i) The SS waits for random access requests from the UE

j) Cell 4 is switched off

k) The SS waits for random access requests from the UE

l) Cell 6 is switched off

6.1.1.5.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be be PLMN 6 within [FFS seconds].

2) In step e), the response from the UE shall be on either Cell 2 or 3. The displayed PLMN shall be the one associated with the cell on which the response was received and shall be shown within [FFS seconds].

3) In step g), the response from the UE shall be on either Cell 2 or 3 (excluding the cell in step 2). The displayed PLMN shall be the one associated with the cell on which the response was received and shall be shown within [FFS seconds].

4) In step i), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN 9 within [FFS seconds].

5) In step k), the response from the UE shall be on Cell 6. The displayed PLMN shall be PLMN 11 within [FFS seconds].

6) After step l), the UE shall inform within [FFS seconds] that only limited service is possible

6.1.1.3 Automatic mode PLMN selection

6.1.1.3.1 Definition

Test to verify that in Automatic Network Selection Mode, the UE selects PLMNs in a prioritized order and that a "PLMN not allowed" or a PLMN with "LA not allowed" is not selected.

6.1.1.3.2 Conformance requirement

1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.

   On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.

   If successful registration is achieved, the MS indicates the selected PLMN. If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

2. Automatic Network Selection Mode Procedure:

   The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

   1.1 HPLMN (if not previously selected);

1.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

1.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

1.4 Other PLMN/access technology combinations with received high quality signal in random order

1.5 Other PLMN/access technology combinations in order of decreasing signal quality

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in a forbidden LAI list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

3. To prevent repeated attempts to have roaming service on a not allowed LA, when the MS is informed that an LA is forbidden, the LA is added to a list of "forbidden LAs for roaming" which is stored in the MS. This list is deleted when the MS is switched off or when the SIM is removed. Such area restrictions are always valid for complete location areas independent of possible subdivision into GPRS routing areas.

   If a "PLMN not allowed" message is received by an MS in response to an LR request from a VPLMN, that VPLMN is added to a list of "forbidden PLMNs" in the SIM and thereafter that VPLMN will not be accessed by the MS when in automatic mode. A PLMN is removed from the "forbidden" list if, after a subsequent manual selection of that PLMN, there is a successful LR. This list is retained when the MS is switched off or the SIM is removed. The HPLMN shall not be stored on the list of "forbidden PLMNs".

References

1. TS 23.122, 4.4.3.1

2. TS 23.122, 4.4.3.1.1

3. TS 23.122, 3.1

NOTE: TS 31.102 defines the USIM fields

6.1.1.3.3 Test purpose

1. To verify that the selected PLMN at switch-on is the HPLMN if no RPLMN exists

2. To verify that in Automatic Network Selection Mode Procedure the UE selects PLMNs in a prioritized order.

3. To verify that a PLMN with LA rejection “LA not allowed” or “PLMN not allowed” is not selected6.1.1.3.4 Method of test

Initial conditions

The UE is in automatic mode.The SIM fields $EF_{UPLMNsel}$ (UPLMN selector), $EF_{OPLMNsel}$ (OPLMN selector) and $EF_{PHPLMNAT}$ (Preferred HPLMN Access Technology) shall only contain UTRAN as the Access Technology Identifier.

The SIM fields $EF_{UPLMNsel}$ and $EF_{OPLMNsel}$ shall only contain one PLMN as indicated in the table.

PLMN 1 is the HPLMN (i.e. IMSI). There is no RPLMN stored in the SIM (i.e. field EF_{BCCH}).

The UE is equipped with a SIM containing default values except for those values listed in table [FFS].

Parameters changed from the default values in table 6.1.3.1 and table [FFS]. **Parameter**	**Unit**	**Cell 1**	**Cell 2**	**Cell 3**	**Cell 4**	**Cell 5**
$\hat{I}_{or}/I_{oc}$	dB	2.5	4.5	7.5		
CPICH_Ec/Io	dB	-18	-16	-13	[FFS: High Q signal]	[FFS: Not high Q signal]
CPICH RSCP	dBm	-78	-76	-73		
Qqualmin	dB	-20	-20	-20		
Qrxlevmin	dBm	-100	-100	-100		
Squal	dB	2	4	7		
Srxlev	dBm	22	24	27		
PLMN		PLMN 1	PLMN 2	PLMN 3	PLMN 4	PLMN 5
SIM field for storing PLMN		EF_{IMSI} (IMSI)	$EF_{UPLMNsel}$ (UPLMN selector)	$EF_{OPLMNsel}$ (OPLMN selector)	Other PLMN than on the SIM	Other PLMN than on the SIM

Test procedure

a) The SS activates cells 1-4

b) The UE is switched on.

c) The SS waits until the selected PLMN is displayed

d) The SS sends SYSTEM INFORMATION to the UE to inform it that PLMN 1 belongs to a "LA not allowed"

e) Step c-d) is repeated except that in d) the UE is informed that PLMN 2 belongs to a "PLMN not allowed"

f) Step c-d) is repeated except that in d) the UE is informed that PLMN 3 belongs to a "LA not allowed"

g) Step c-d) is repeated except that in d) the UE is informed that PLMN 4 belongs to a "LA not allowed"

h) Step c-d) is repeated except that in d) the UE is informed that PLMN 5 belongs to a "LA not allowed"

i) The SS waits until "Emergency calls only" is shown

6.1.1.3.5 Test Requirements

1) In step c), the selected PLMN shall be displayed as PLMN 1 within 2 min.

2) In step e), the selected PLMN shall be displayed as PLMN 2 within 2 min.

3) In step f), the selected PLMN shall be displayed as PLMN 3 within 2 min.

4) In step g), the selected PLMN shall be displayed as PLMN 4 within 2 min.

5) In step h), the selected PLMN shall be displayed as PLMN 5 within 2 min.

6) In step i), the UE shall say "Emergency calls only" within 2 min.

[Editor's note: The time 2 min is taken from the GSM 11.10-1, test case 26.3.4][Editor's note: It is assumed that the displayed PLMN reflects the cell camped on and that it is not necesary to test that the UE actually camps on that cell]

6.1.1.64 UE will transmit only if PLMN available

6.1.1.64.1 Definition

Test to verify that the UE will not produce any RF transmission if no PLMN is available.

6.1.1.64.2 Conformance requirement

The UE shall monitor the DPCCH quality in order to detect a loss of the signal on Layer 1, as specified in TS 25.214. The thresholds Q_{out} and Q_{in} specify at what DPCCH quality levels the UE shall shut its power off and when it may turn its transmitter on respectively. The thresholds are not defined explicitly, but are defined by the conditions under which the UE shall shut its transmitter off and turn it on.

References

1. TS 25.101, 6.4.4 and TS 25.214, 4

6.1.1.64.3 Test purpose

1. To verify that the UE does not give any “Service indication” when no PLMN is available
2. To verify that the UE will not produce any RF transmission when no PLMN is available

6.1.1.64.4 Method of test

Initial conditions

Parameters changed from the default values in table 6.1.3.1 and table [FFS].

Parameter	Unit	Cell 1	Cell 2	Cell 3
$\hat{I}_{or}/I_{oc}$	dB	7.5	4.5	2.5
CPICH_Ec/Io	dB	-13	-16	-18
CPICH RSCP	dBm	-73	-76	-78
Qqualmin	dB	-20	-20	-20
Qrxlevmin	dBm	-100	-100	-100
Squal	dB	7	4	2
Srxlev	dBm	27	24	22

Test procedure

a) The SS activates the cells 1-3 and monitors them for random access requests from the UE

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) Cells 1-3 are switched off

e) The SS shall wait 20 sec. to allow the UE to detect the loss of cells

[Editor’s note: 20 sec. is taken from the equiv. GSM test case and must be confirmed]

f) By MMI, an attempt to originate a call is made

g) By MMI, an attempt to originate an emergency call is made (only if UE supports speech)

6.1.1.64.5 Test Requirements

1) In step c), there shall be a response on cell 1 within 2 min.

2) In step f) and g), the UE shall not produce any RF output, neither give any “service indication”.

[Editor’s note: 2 min. is taken from the equiv. GSM test case and must be confirmed]

~~6.1.2 Radio access mode selection and reselection~~

~~6.1.2.1 UE selects radio access mode (FDD/TDD) on request by the servicing network~~

~~Tests to verify that the UE selects the radio access mode requested by the servicing network.~~

~~FFS~~

6.1.2~~3~~ Cell selection and reselection

6.1.2~~3~~.1 Cell selection

6.1.2~~3~~.1.1 Definition

Test to verify that the UE is capable of selecting a cell that fulfils the “suitable” cell criteria. The test covers both Initial and Stored cell selection.

6.1.2~~3~~.1.2 Conformance requirement

1. Cell selection procedure to find a suitable cell to camp on:

   1.1 Create a candidate list of potential cells to camp on, using:

   1.1.1 Initial Cell Selection procedure; or

   1.1.2 Stored Information Cell Selection procedure

   1.2 For each cell on the candidate list, measure the quality value, $Q_{meas,LEV}$

   1.3 For each cell on the candidate list calculate the cell selection value, Squal and Srxlev

   1.4 Rank the cells and select the best cell

   1.5 Select the cell that fulfils the criteria $Q_{map,n} > Q_{map,s} + Q_{offsets,n}$ best. Check if the selected cell fulfils all requirements for a suitable cell. If so, choose this cell to camp on. If this cell does not fulfil all requirements for a suitable cell, this cell and all cells on the same frequency shall be removed as candidates for cell selection in case the barred cell does not accept intra-frequency cell selection and re-selection. On the other hand, in case the barred cell accepts intra-frequency cell selection and re-selection, only the barred cell shall be removed as candidate for cell selection, and step 1.4 shall be repeated for the remaining cells.

2. A suitable cell must fulfil all the following requirements.

   2.1 The cell is part of the selected PLMN.

   2.2 The cell is not barred [details are FFS].

   2.3 The cell is not part of a forbidden registration area [details are FFS].

   2.4 The cell selection criteria are fulfilled (Squal>0 and Srxlev>0)

   2.5 The SoLSA criteria are fulfilled [FFS].

   2.6 The cell is not an operator-only cell, unless the UE has those access rights.

3. The UE shall be able to calculate correctly the cell selection criteria, Squal and Srxlev

References

1. TS 25.304, 5.2.2.1.1
2. TS 25.304, 4.3
3. TS 25.304, 5.2.2.1.2

6.1.23.1.3 Test purpose

Test to verify that the UE selects the correct cell according to the requirements for cell selection:

1. To verify that the UE selects suitable cells in descending order of received signal strength Q_{meas} according to conformance requirement 1.
2. To verify that:

   1.1 The UE does not select a cell of a PLMN, which is not the selected PLMN.

   1.2 The UE does not select a cell, which is barred.

   1.3 The UE does not select a cell with S<0.

   The conformance requirement 2.3 (forbidden registration area), 2.5 (SolSA) and 2.6 (operator-only cell) is not covered by the test.

6.1.23.1.4 Method of test

Initial conditions

The relative RF signal to total interference ratio at the UE (*CPICH_Ec/Io*) between the cells shall be:

Cell 1 (barred) > Cell 2 (S<0) > Cell 3 > Cell 4

Cell 1 must be on a different frequency than the other cells because it is barred (conformance requirement 1.4).

Parameters changed from the default values in table 6.1.3.1.

Parameter	Unit	Cell 1	Cell 2	Cell 3	Cell 4
UTRA RF Channel Number		UARFCN 1	UARFCN 2	UARFCN 2	UARFCN 2
$\hat{I}_{or}/I_{oc}$	dB	5.9	7.5	4.5	2.5
CPICH_Ec/Io	dB	-11	-13	-16	-18
CPICH RSCP	dBm	-74	-73	-76	-78
Qqualmin	dB	-20	-5	-20	-20
Qrxlevmin	dBm	-100	-100	-100	-100
Squal	dB	9	-8	4	2
Srxlev	dBm	26	27	24	22
CellBarred		1	0	0	0

Test procedure

a) The SS activates the cells 1-4 and monitors cell 2, 3 and 4 for random access requests from the UE

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) The UE is switched off.

e) The SS monitors cell 1, 2 and 3 for random access requests from the UE.

f) The UE is switched on.

g) The SS waits to see if there is any random access requests from the UE.

h) The stored information cell selection list in the UE is deleted and the UE is switched off.

i) Step a-g) is repeated except that Cell 1 is set to belong to a different PLMN instead of being barred.

j) Step a-g) is repeated except that Qrxlevmin is set to -70 instead of being barred. Srxlev will be negative.

6.1.23.1.5 Test requirements

1) In step c), the first response from the UE shall be on cell 3 within 33 seconds There shall be no response from the UE on cell 2 (Initial cell selection)

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the initial cell selection time. UMTS should not have worse performance than GSM]

2) In step g), there shall be no response from the UE on cell 1 or 2 within 33 seconds (Stored cell selection)

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the stored cell selection time. UMTS should not have worse performance than GSM]

3) In i) the responses shall be as in previous test requirements 1) and 2).

4) In j) the responses shall be as in previous test requirements 1) and 2).

6.1.23.2 Cell selection on release of DCCH and DTCH

FFS.

6.1.23.3 Cell reselection

6.1.23.3.1 Definition

Test to verify that the UE performs the cell reselection correctly for intra/inter-frequency cells if the serving cell becomes barred or S<0.

6.1.23.3.2 Conformance requirement

1. While camped on a cell of the selected PLMN ("camped normally"), the UE may need to select a different cell ("normal cell reselection" state). The following events trigger a cell reselection:

   1.1 Time for cell re-selection evaluation

   1.2 Cell selection criterion S is not fulfilled

   1.3 Cell has become barred or forbidden

   In case 1.2 and 1.3, the parameters Qhyst and Treselection shall not be considered in the criteria.

2. The UE shall perform a cell reselection if a non-serving cell is evaluated to be better than the serving cell. The best cell is the cell with the highest cell-ranking criterion R and (Squal>0, Srxlev>0). The UE shall reselect the new cell, if the cell reselection criteria are fulfilled during a time interval Treselection.

3. Non-suitable cells (Squal>0 or Srxlev>0): If the best cell according to cell reselection criteria, does not fulfil all requirements for a suitable cell, that cell, together with all cells on that frequency shall be removed as candidate for cell re-selection.

4. Cell re-selection is correct if within Nt [FFS] seconds the UE re-reselects a new cell, which fulfils the cell re-selection criteria and stays steady on that cell until the channel conditions are changed again.

References

1. TS 25.304, 5.2.2.4.1
2. TS 25.304, 5.2.2.4.5
3. TS 25.304, 5.2.2.4.4
4. TS 25.133, 4.3.2.1.2

6.1.2~~3~~.3.3 Test purpose

1. To verify that the UE meets conformance requirement 1.2 and 1.3
2. To verify that the UE meets conformance requirement 2
3. To verify that the UE meets conformance requirement 3

NOTE: Interfrequency cell reselection caused by a better cell being found (conformance requirement 1.1 and 4) is tested in TS 34.121, 8.2.3.2 Cell re-selection multi carrier multi cell case. Conformance requirement 4 applies also to the cell reselection criteria S<0.

6.1.2~~3~~.3.4 Method of test

Initial conditions

Treselection, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME are not used, so the cell-ranking criterion R equals Q.

The relative RF signal to total interference ratio at the UE (*CPICH_Ec/Io*) between the cells shall be:

Cell 1 > Cell 2 > Cell 3 > Cell 4

Cells 1 and 2 are on a different frequency than the other cells (Cell 1 will become barred and therefore both cells 1 and 2 removed from the candidate list)

Parameters changed from the default values in table 6.1.3.1.

Parameter	Unit	Cell 1	Cell 2	Cell 3	Cell 4
UTRA RF Channel Number		UARFCN 1	UARFCN 1	UARFCN 2	UARFCN 2
$\hat{I}_{or}/I_{oc}$	dBm	4.4	2.4	-5.3	-7.3
CPICH_Ec/Io	dB	-13	-15	-17	-19
CPICH RSCP	dBm	-76	-78	-85	-87
Qqualmin	dB	-20	-20	-20	-20
Qrxlevmin	dBm	-100	-100	-100	-100
Squal	dB	7	5	3	1
Srxlev	dBm	24	22	15	13

Test procedure

a) The SS activates cells 1, 2, 3 and 4. The SS monitors cells 1, 2 and 3 for random access requests from the UE.

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) The SS sets Cell 1 to be barred

e) The SS waits for random access request from the UE

f) The stored information cell selection list in the UE is deleted and the UE is switched off.

g) Step a-e) is repeated except that in step d), Qqualmin is increased to -10 dB, so S will become negative instead of the cell being barred while maintaining the same RF level.

f) The stored information cell selection list in the UE is deleted and the UE is switched off.

h) Step a-e) is repeated except that in step d), Cell 1 shall be on another PLMN while maintaining the same RF level.

6.1.23.3.5 Test requirements

1) In step c), the UE shall respond on Cell 1 within 33 seconds

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the initial cell selection time. UMTS should not have worse performance than GSM]

2) In step e), the UE shall respond on Cell 3 within 12 seconds

NOTE 1: 1280 msec. for DRX cycle + 1280 msec. for system info scheduling + 5 sec. actual reselection time + 1280 msec. for reading neighbour BCCH + 25%. Allow 12 sec.

3) The responses in step g) shall first be a response on Cell 1 and then a response on Cell 2.

4) The responses in step h) shall first be a response on Cell 1 and then a response on Cell 3.

6.1.23.4 Cell reselection using reselection timing parameters

6.1.23.4.1 Definition

Test to verify that the UE performs the cell reselection correctly if system information parameters Qoffset, Qhyst, TEMP_OFFSET, PENALTY_TIME and Treselection are applied for non-hierarchical cell structures.

6.1.23.4.2 Conformance requirement

1. While camped on a cell of the selected PLMN ("camped normally"), the UE may need to select a different cell ("normal cell reselection" state). The following events trigger a cell reselection:

   1.1 Time for cell re-selection evaluation

   1.2 Cell selection criterion S is not fulfilled

   1.3 Cell has become barred or forbidden

   In case 1.2 and 1.3, the parameters Qhyst and Treselection shall not be considered in the criteria.

2. The UE shall perform a cell reselection if a non-serving cell is evaluated to be better than the serving cell. The best cell is the cell with the highest cell-ranking criterion R and (Squal>0, Srxlev>0). The UE shall reselect the new cell, if the cell reselection criteria are fulfilled during a time interval Treselection.

3. The cell-ranking criterion R is calculated using the Qoffset, Qhyst, TEMP_OFFSET, PENALTY_TIME and Treselection parameters.

4. Cell re-selection is correct if within Nt [FFS] seconds the UE re-reselects a new cell, which fulfils the cell re-selection criteria and stays steady on that cell until the channel conditions are changed again.

References

1. TS 25.304, 5.2.2.4
2. TS 25.304, 5.2.2.4.5
3. TS 25.304, 5.2.2.4.5
4. TS 25.133, 4.3.2.1.2

6.1.2~~3~~.4.3 Test purpose

1. To verify conformance requirement 1.1
2. To verify conformance requirement 2
3. To verify conformance requirement 3

NOTE: Interfrequency cell reselection caused by a better cell being found (conformance requirement 1.1 and 4) is tested in TS 34.121, 8.2.3.2 Cell re-selection multi carrier multi cell case. Conformance requirement 4 applies also to the cell reselection criteria S<0.

6.1.2~~3~~.4.4 Method of test

Initial conditions

Serving cell: T1: Cell 1, T2: Cell 2, T3: Cell 3

Parameters changed from the default values in table 6.1.3.1.

Parameter	Unit	Cell 1		Cell 2		Cell 3	Cell 4
		T1	T2	T1	T2	T3	T3
UTRA RF Channel Number	dB	UARFCN 1		UARFCN 1		UARFCN 2	UARFCN 2
$\hat{I}_{or}/I_{oc}$	dB	-3.71	0.06	-5.71	3.06	5.87	5.87
CPICH_Ec/Io	dB	-16		-18	-13	-11	-11
CPICH RSCP	dBm	-84	-80	-86	-77	-74	-74
Qqualmin	dB	-20		-20		-20	-20
Qrxlevmin	dBm	-100		-100		-100	-100
Squal	dB	4		2	7	9	9
Srxlev	dBm	16	20	14	13	26	26
$Qhyst_s$	dB	4			0		
$Treselection_s$	sec	10			10		
$PENALTY\_TIME_n$	sec	-			-	40	60
$TEMP\_OFFSET_n$	dB	-			-	5	5
$Qoffset_{s,n}$	dB	n=1,2,3,4: 0			n=3,4: 1		
R_s	dB	-12			-13		
R_n	dB	n=2: -18	n=2: -13		n=3,4: -17 to -12		

Note 1: The initial cell selection, after the UE has been switched on, is based on a comparison of the active cells' Q value, not R.

Test procedure

a) The SS activates cells 1 and 2 with T1 defined parameters. The UE is not paged on Cell 1. The SS monitors Cell 2 for random access requests from the UE.

b) The UE is switched on.

c) The SS waits to see if there is any random access request from the UE

d) The SS increases the level of Cell 2 to –13 dB as described for T2.

e) The SS waits for random access request from the UE

f) The SS sets Qhyst to 2 dB so R_s will be –14 dB

g) The SS waits for random access request from the UE

h) When the SS receives a response on Cell 2, the SS stops paging in that cell. The SS activates cells 3 and 4 as described for T3 and continuously pages the UE on these cells. The SS monitors cells 3 and 4 for random access requests from the ~~MS~~UE.

i) The SS waits for random access request from the UE

6.1.2~~3~~.4.5 Test Requirements

1) In step c), there shall be no response from the UE on Cell 2 within 50 seconds

[Editor's note: The 50 seconds is taken from GSM as there is no requirement in UMTS to the initial cell selection time. UMTS should not have worse performance than GSM]

2) In step e), there shall be no response from the UE on Cell 2 within 50 seconds

3) In step g), the UE shall respond on Cell 2 within 20 seconds

NOTE 1: Actual reselection time of 5 sec. (due to changed RF conditions, conformance req. 4) + Treselection time of 10 sec. + 25%. Allow 20 sec.

4) In step i), there shall be no response from the UE on Cell 3 within 48 seconds of activating the cells but the UE shall respond on Cell 3 within 75 seconds The response on Cell 3 shall be before any response on Cell 4.

NOTE 2: Minimum time of 48 sec. set by PENALTY_TIME (cell 3) + Treselection time - 2 sec. tolerance. Maximum time of 75 sec. set by PENALTY_TIME (cell 3) + Treselection time + 1280 msec. for DRX cycle + 1280 msec. for system info scheduling + 5 sec. actual reselection time + 1280 msec. for reading neighbour BCCH + 25%.

6.1.2~~3~~.5 HCS Cell reselection ~~Cell reselection if HCS is used~~

6.1.2.5.1 Definition

Test to verify that the UE performs the cell reselection correctly for hierarchical cell structures. This shall be done according to the HCS priority, the received signal quality value Q and the quality level threshold criterion H.

6.1.2.5.2 Conformance requirement

1. The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is calculated from the Q, Qhcs, TEMP_OFFSET and PENALTY_TIME parameters.

2. The UE shall perform a cell re-selection if a non-serving cell is evaluated to be better than the serving cell. The best cell is the cell with the highest R value and (Squal > 0, Srxlev > 0) among those cells that have the highest

HCS_PRIO among those cells that fulfil the criterion H >= 0. Note that this rule is not valid when UE high-mobility is detected.

The UE shall reselect the new cell, if the cell reselection criteria are fulfilled during a time interval Treselection.

References

1,2. TS 25.304, 5.2.2.4.5

6.1.2.5.3 Test purpose

1. Verify that the UE ranks cells based on their HCS priority and Q value
2. Verify that the UE ignores cells with H<0 for reselection

6.1.2.5.4 Method of test

Initial conditions

Parameters changed from the default values in table 6.1.3.1.

Parameter	Unit	Cell 1	Cell 2		Cell 3	
		T1-3	T1-2	T3	T1	T2-3
$\hat{I}_{or}/I_{oc}$	dBm	7.5	4.5		2.5	
CPICH Ec/Io	dB	-13	-16		-18	
CPICH RSCP	dBm	-73	-76		-78	
Qqualmin	dB	-20	-20		-20	
Qrxlevmin	dBm	-100	-100		-100	
Squal	dB	7	4		2	
Srxlev	dBm	27	24		22	
HCS priority		6	7		7	
Qhcs	dB	-30	-10	-30	-10	-30
H	dB	17	-6	14	-8	12

NOTE: Squal, Srxlev and H are calculated internally in the UE and are just for information.

Test procedure

a) The SS activates the cells 1-3 according to T1 and monitors the cells for random access requests from the UE

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) The parameters are changed as described for T2

e) The SS waits for random access request from the UE

f) The parameters are changed as described for T3

g) The SS waits for random access request from the UE

6.1.2.5.5 Test requirements

1) In step c), the UE shall respond on cell 1 within [FFS: 33 seconds].

2) In step e), the UE shall respond on cell 3 within [FFS: 33 seconds]. There shall be no response from the UE on cell 2

3) In step g), the UE shall respond on cell 2 within [FFS: 33 seconds]. There shall be no response from the UE on cell 1.

6.1.2.6 HCS Cell reselection using reselection timing parameters

6.1.2.6.1 Definition

Test to verify that the UE performs the cell reselection correctly for hierarchical cell structures using TEMP_OFFSET and PENALTY_TIME.

6.1.2.6.2 Conformance requirement

1. The quality level threshold criterion H for hierarchical cell structures is used to determine whether prioritised ranking according to hierarchical cell re-selection rules shall apply, and is calculated from the Q, Qhcs, TEMP_OFFSET and PENALTY_TIME parameters.

2. TEMP_OFFSET shall only be used in the calculation of H if the cells have different HCS priorities. The timer that runs for a period of PENALTY_TIME, is started when $Q_{map,n} > Qhcs_n$. In case of identical HCS priorities, TEMP_OFFSET is not used.

3. The UE shall perform a cell re-selection if a non-serving cell is evaluated to be better than the serving cell. The best cell is the cell with the highest R value and (Squal > 0, Srxlev > 0) among those cells that have the highest HCS_PRIO among those cells that fulfil the criterion H >= 0. Note that this rule is not valid when UE high-mobility is detected.

   The UE shall reselect the new cell, if the cell reselection criteria are fulfilled during a time interval Treselection.

References

1,2,3. TS 25.304, 5.2.2.4.5

6.1.2.6.3 Test purpose

1. Verify that the UE ignores cells with H<0 for reselection

2. Verify that the timer runs for a period of PENALTY_TIME and is started when $Q_{map,n} > Qhcs_n$ if serving and neighbour cell have different HCS priorities.

3. Verify that the UE reselects a new cell only if the cell reselection criteria are fulfilled during a time interval Treselection.

6.1.2.6.4 Method of test

Initial conditions

Parameters changed from the default values in table 6.1.3.1.

Parameter	Unit	Cell 1	Cell 2		Cell 3	
		T1-2	T1	T2	T1	T2
$\hat{I}_{or}/I_{oc}$	dB	7.5	4.5		2.5	
CPICH_Ec/Io	dB	-13	-16		-18	
CPICH RSCP	dBm	-73	-76		-78	
Qqualmin	dB	-20	-20		-20	
Qrxlevmin	dBm	-100	-100		-100	
Squal	dB	7	4		2	
Srxlev	dBm	27	24		22	
HCS priority		2	4		7	
Qhcs		-20	-10	-20	-10	-20
TEMP_OFFSET		0	10		10	
H		7	-6	-6 -> 4	-8	-8 -> 2
PENALTY_TIME	sec		40		60	
Treselection	sec	10				

NOTE: Squal, Srxlev and H are calculated internally in the UE and are just for information.

Test procedure

a) The SS activates the cells 1-3 according to T1 and monitors cell 1, 2 and 3 for random access requests from the UE

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) The parameters are changed as described for T2

e) The SS waits for random access request from the UE

6.1.2.6.5 Test requirements

1) In step c), the UE shall respond on cell 1 within [FFS: 33 seconds]. There shall be no response from the UE on cell 2 or 3.

2) In step e), there shall be no response from the UE on Cell 2 within 48 seconds of changing the parameters but the UE shall respond on Cell 2 within 75 seconds. The response on Cell 2 shall be before any response on Cell 3.

NOTE: Minimum time of 48 sec. set by PENALTY_TIME (cell 3) + Treselection time - 2 sec. tolerance. Maximum time of 75 sec. set by PENALTY_TIME (cell 3) + Treselection time + 1280 msec. for DRX cycle + 1280 msec. for system info scheduling + 5 sec. actual reselection time + 1280 msec. for reading neighbour BCCH + 25%.

6.1.2.73.6 Cell reselection due to UE rejection “LA not allowed”

6.1.2.7.13.6.1 Definition

Test to verify that a UE camping on a cell which has a “Regionally restricted service” will select a different cell in order to fullfill the normal service state. This ensures that the UE is camped on a cell from which it can reliably decode downlink data and with which it has a high probability of communications on the uplink.

6.1.2.7.23.6.2 Conformance requirement

1. In response to a registration attempt, when receiving an LU reject with cause value "LA not allowed", the UE stores this LAI in a list of "forbidden LAIs for regional provision of service", to prevent repeated attempts to

access a cell of the forbidden LA. This list is deleted when the MS is switched off or the SIM is removed. If the MS cannot find a suitable cell, the MS performs the PLMN selection procedure.

2. When the MS is camped on a cell, the LA of which belongs to the list of forbidden LA for regional provision of service, the MS is not allowed to initiate establishment of a CM connection except for an emergency call; it may respond to paging.

3. There are a number of situations in which the MS is unable to obtain normal service from a PLMN. These include:

   3.1 Failure to find a suitable cell of the selected PLMN;

   3.2 No SIM in the MS;

   3.3 A "PLMN not allowed" response to an LR;

   3.4 An "illegal MS", "illegal ME" or "IMSI unknown in HLR" response to an LR; (Any SIM in the ME is then considered "invalid".)

   Under any of these conditions, the MS attempts to camp on an acceptable cell, irrespective of its PLMN identity, so that emergency calls can be made if necessary. No LR requests are made until a valid SIM is present and either a suitable cell is found or a manual network reselection is performed.

4. The cell reselection procedure shall be triggered in the following cases:

   4.1 Time for cell re-selection evaluation;

   4.2 Cell selection criterion S is not fulfilled;

   4.3 Cell has become barred or forbidden.

   In case 4.2 and 4.3, the parameters Qhyst and Treselection shall not be considered in the criteria.

5. Non-suitable cells (Squal > 0 or Srxlev > 0)): If the best cell according to cell reselection criteria, does not fulfil all requirements for a suitable cell, that cell, together with all cells on that frequency shall be removed as candidate for cell re-selection.

6. A new LU attempt shall only be performed when a new LA (or new PLMN) is entered according to the cell reselection procedure.

References

1. TS 23.122, 3.2
2. TS 23.122, 3.4.2
3. TS 23.122, 3.5
4. TS 25.304, 5.2.2.4.1
5. TS 25.304, 5.2.2.4.4
6. TS 23.122, Table 2

6.1.2.7.3~~3.6.3~~ Test purpose

1. To verify that if an LU is rejected with cause "LA not allowed" that the LAI of that cell is written into a forbidden list which prevents the UE from performing LU onto another cell in that LA. This is verified indirectly in test purposes 2, 3 and 4.

2. To verify that cell reselection is triggered when the UE receives an LU reject with cause value "LA not allowed"

3. To verify that if no suitable cells exist, the UE will not reject a cell for camping on because that cell is part of a LA in the list of "forbidden LAIs for regional provision of service". This is verified indirectly by making the UE

attempt an emergency call and checking that the RRC CONNECTION REQUEST is transmitted on the correct cell.

4. To verify that a new LU attempt will be performed when a new LA (or new PLMN) is entered.

6.1.2.7.4~~3.6.4~~ Method of test

Initial conditions

Treselection, Qhyst, TEMP_OFFSET and PENALTY_TIME are not used.

The relative RF signal to total interference ratio at the UE (*CPICH_Ec/Io*) between the cells shall be:

Cell 1 > Cell 2 > Cell 3

Parameters changed from the default values in table 6.1.3.1 and table [FFS].

Parameter	Unit	Cell 1	Cell 2	Cell 3
$\hat{I}_{or}/I_{oc}$	dB	7.5	4.5	2.5
CPICH_Ec/Io	dB	-13	-16	-18
CPICH RSCP	dBm	-73	-76	-78
Qqualmin	dB	-20	-20	-20
Qrxlevmin	dBm	-100	-100	-100
Squal	dB	7	4	2
Srxlev	dBm	27	24	22
$Qoffset_{s,n}$	dB		4	
$R_n = Q_n - Qoffset_{s,n}$	dB		-20	
LAC		H1111	H2222	H1111
ATT		1	1	1

Test procedure

a) The SS activates cells 1 and 3. The SS monitors cells 1 and 3 for random access requests from the UE until step g) has been completed. Only idle-paging is sent on all channels.

[Editor's note: Idle paging in this case ?. The UE shall not be paged in any cell]

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) When the UE performs an IMSI attach onto Cell 1 by sending a LOCATION UPDATING REQUEST, the SS shall reject it with cause "LA not allowed".

e) 30 seconds after the UE has returned to idle mode (RRC CONNECTION RELEASE after LU reject), the UE is manually commanded to set up an emergency call.

[Editor's note: The 30 seconds is taken from GSM as there is no requirement in UMTS. UMTS should not have worse performance than GSM]

f) The SS waits for RRC CONNECTION REQUEST from the UE

g) The SS rejects the CM service request from the UE, with a CM service reject message with cause value #17 (Network Failure).

NOTE: Cause values #4 (IMSI unknown in VLR) or #6 (Illegal ME) lead to unwanted behaviour of the mobile.

h) 10 seconds after the UE has returned to idle mode (channel release after CM service reject), the SS sets $Qoffset_{s,n}$ of Cell 2 to 0 so R_n becomes –16.

[Editor's note: The 10 seconds is taken from GSM as there is no requirement in UMTS. UMTS should not have worse performance than GSM]

i) The SS shall accept any LU on Cell 2.

6.1.2.7.5~~3.6.5~~ Test requirements

1) In step c), the UE shall respond on Cell 1 within 33 sec. of switch-on.

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the initial cell selection time. UMTS should not have worse performance than GSM]

2) In step f), the UE shall access on Cell 3 within 15 seconds of being commanded to set up the emergency call.

[Editor's note: The 15 seconds is taken from GSM as there is no requirement in UMTS. UMTS should not have worse performance than GSM]

3) In step i), the UE shall reselect and access onto Cell 2 requesting an LU within 30 seconds after having activated Cell 2.

[Editor's note: The 30 seconds is taken from GSM as there is no requirement in UMTS. UMTS should not have worse performance than GSM]

6.1.2.8~~3.7~~ Cell reselection due to UE rejection "Roaming not allowed in this LA"

6.1.2.8.1~~3.7.1~~ Definition

Test to verify that a UE camping on a cell and receiving a "Roaming not allowed in this LA" will select a different cell in order to fullfill the normal service state. This ensures that the UE is camped on a cell from which it can reliably decode downlink data and with which it has a high probability of communications on the uplink.

6.1.2.8.2~~3.7.2~~ Conformance requirement

1. To prevent repeated attempts to have roaming service on a not allowed LA, when the UE is informed that an LA is forbidden, the LA is added to a list of "forbidden LAs for roaming" which is stored in the UE.
2. If the LR response "Roaming not allowed in this LA" is received, the PLMN Automatic or Manual Mode Selection Procedure is followed, depending on whether the UE is in automatic or manual mode.
3. Cell selection procedure to find a suitable cell to camp on:

   3.1 Create a candidate list of potential cells to camp on, using:

   3.1.1 Initial Cell Selection procedure; or

   3.1.2 Stored Information Cell Selection procedure

   3.2 For each cell on the candidate list, measure the quality value, $Q_{meas,LEV}$

   3.3 For each cell on the candidate list calculate the cell selection value, Squal and Srxlev

   3.4 Rank the cells and select the best cell

   3.5 Select the cell that fulfils the criteria $Q_{map,n} > Q_{map,s} + Q_{offsets,n}$ best. Check if the selected cell fulfils all requirements for a suitable cell. If so, choose this cell to camp on. If this cell does not fulfil all requirements for a suitable cell, this cell and all cells on the same frequency shall be removed as candidates for cell selection in case the barred cell does not accept intra-frequency cell selection and re-selection. On the other hand, in case the barred cell accepts intra-frequency cell selection and re-selection, only the barred cell shall be removed as candidate for cell selection, and step 3.4 shall be repeated for the remaining cells.
4. A suitable cell must fulfil certain requirements, among those:

- the cell is not part of a forbidden registration area [details are FFS].

5. A new LU attempt shall only be performed when a new LA (or new PLMN) is entered according to the cell reselection procedure.

References

1. TS 23.122, 3.1
2. TS 23.122, 4.4.5 and 4.3.3 L3
3. TS 25.304, 5.2.2.1.1
4. TS 25.304, 4.3
5. TS 23.122, Table 2

6.1.2.8.3~~3.7.3~~ Test purpose

1. To verify that if an LU is rejected with cause "Roaming not allowed in this LA" that the LAI of that cell is written into a forbidden list which prevents the UE from camping onto any cell in that LA.
2. To verify that if the UE has received the cause "Roaming not allowed in this LA", in response to a LU attempt, the Network Selection Procedure is initiated. This is verified indirectly by test purpose 3, in that the new LA is accessed as part of cell selection.
3. To verify that if an LU is rejected, when attempting LU in a LA with LAI = LAI1, with cause "Roaming not allowed in this LA" and only cells of the selected PLMN are available, the UE will only camp and attempt LU in any LA with LAI <> LAI1.
4. To verify that a new LU attempt will be performed when a new LA (or new PLMN) is entered.

6.1.2.8.4~~3.7.4~~ Method of test

Initial conditions

The relative RF signal to total interference ratio at the UE (*CPICH_Ec/Io*) between the cells shall be:

Cell 1 > Cell 2

[Editor's note: Do we need different carrier freq. for Cell 1 and 2 ? In the cell selection procedure, all cells on the same freq. as the non-suitable/rejected cell are removed. But in this case, the two cells belong to different LA, so is it still needed to have diff. freq. ?]

[Editor's note: Do both cells belong to the same PLMN ?]

Parameters changed from the default values in table 6.1.3.1 and table [FFS].

Parameter	Unit	Cell 1	Cell 2
$\hat{I}_{or}/I_{oc}$	dB	3.06	0.06
CPICH_Ec/Io	dB	-13	-16
CPICH_RSCP	dBm	-77	-80
Qqualmin	dB	-20	-20
Qrxlevmin	dBm	-100	-100
Squal	dB	7	4
Srxlevmin	dB	23	20
MNC		MNC <> HPLMN	MNC <> HPLMN
MCC		MCC of HPLMN	MCC of HPLMN
LAC		H1111	H2222
ATT		1	1

Test procedure

a) The SS activates cells 1 and 2 and monitors both cells for random access requests from the UE. Only Idle paging is sent on all channels.

[Editor's note: Idle paging in this case ? The UE shall not be paged in any cell]

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) When the UE performs an IMSI attach onto Cell 1 by sending a LOCATION UPDATING REQUEST, the SS shall reject it with cause "Roaming not allowed in this LA".

e) The SS waits for random access request from the UE

f) The SS shall accept any LU on Cell 2.

g) The SS waits to see if there is any random access requests from the UE

6.1.2.8.5~~3.7.5~~ Test requirements

1) In step c), the UE shall respond on Cell 1 within 33 sec. of switch-on.

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the initial cell selection time. UMTS should not have worse performance than GSM]

2) In step e), the UE shall initiate the Network Selection Procedure and access onto Cell 2 as part of cell selection within 33 sec. from returning to idle mode after the LU reject.

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS. UMTS should not have worse performance than GSM]

3) In step g), there shall be no response from the UE within [TBD] sec.

6.1.2.9~~3.8~~ Emergency calls

6.1.2.9.1~~3.8.1~~ Definition

Test to verify that the UE shall be able to initiate emergency calls when no suitable cells of the selected PLMN are available, but at least one acceptable cell is available.

6.1.2.9.2~~3.8.2~~ Conformance requirement

1. When in a limited service state, the UE shall be able to initiate emergency calls.

2. Select the cell that fulfils the $Q_{map,n} > Q_{map,s} + Q_{offsets,n}$ best. Check if the selected cell fulfils all requirements for a suitable cell. If so, choose this cell to camp on. If this cell does not fulfil all requirements for a suitable cell, this cell and all cells on the same frequency shall be removed as candidates for cell selection in case the barred cell does not accept intra-frequency cell selection and re-selection. On the other hand, in case the barred cell accepts intra-frequency cell selection and re-selection, only the barred cell shall be removed as candidate for cell selection, and the procedure shall be repeated for the remaining cells. The same applies in cell reselection.

3. If the UE is unable to find any suitable cell of selected PLMN using the Initial cell selection procedure, it shall attempt to camp on highest ranked acceptable cell and enter the Camped on any cell state, where it can only obtain limited service.

4. The UE shall perform a cell reselection if a non-serving cell is evaluated to be better than the serving cell. The best cell is the cell with the highest cell-ranking criterion R and (Squal>0, Srxlev>0). The UE shall reselect the new cell, if the cell reselection criteria are fulfilled during a time interval Treselection.

5. If no suitable cell is found, the UE shall attempt to find an acceptable cell of any PLMN, state *Any cell selection*. This state is also entered if a non-access stratum registration procedure is rejected, or if there is no USIM in the UE. If an acceptable cell is found, the UE shall camp on this cell and obtain limited service, state *Camped on any cell*. In this state, the UE shall behave as specified for state *Camped normally*, but typically with a different PLMN. Additionally, the UE shall regularly attempt to find a suitable cell using stored information, trying all radio access technologies that are supported by the UE. If a suitable cell is found, the PLMN is reselected.

   When a cell reselection is triggered, the UE shall evaluate the cell reselection criteria based on radio measurements, and if a better cell is found that cell is selected, procedure *Any cell reselection*. The change of cell may imply a change of radio access technology.

References

1. TS 25.304, 4.3

2. TS 25.304, 5.2.2.1.1 and 5.2.2.4.4

3. TS 25.304, 5.2.2.1.1

4. TS 25.304, 5.2.2.4.5

5. TS 25.304, 5.2.1

6.1.2.9.3~~3.8.3~~ Test purpose

1. To verify that the UE shall be able to initiate emergency calls when no suitable cells of the selected PLMN are available, but at least one acceptable cell is available.

2. To verify that the UE selects a cell with S>0 (acceptable cell) and CellBarred = 0 when no suitable cells of the selected PLMN are available.

3. To verify that the UE ranks the cells according to the cell-ranking criterion R which in this test case equals Q as Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME parameters are not used. Treselection is not used either.

6.1.2.9.4~~3.8.4~~ Method of test

Initial conditions

The relative RF signal to total interference ratio at the UE (*CPICH_Ec/Io*) between the cells shall be:

Cell 2 (S<0) > Cell 1 (barred) > Cell 3

Parameters changed from Default values table 6.1.3.1.

Parameter	Unit	Cell 1	Cell 2	Cell 3
$\hat{I}_{or}/I_{oc}$	dB	4.5	7.5	2.5
CPICH_Ec/Io	dB	-16	-13	-18
CPICH_RSCP	dBm	-76	-73	-78
Qqualmin	dB	-20	-10	-20
Qrxlevmin	dBm	-100	-100	-100
Squal	dB	4	-3	2
Srxlev	dBm	24	27	22
CellBarred		1	0	0
PLMN		forbidden	forbidden	forbidden

NOTE: All the BCCH cells belong to the same PLMN, which is not the UE's home PLMN and is in the USIM's forbidden PLMN's list.

[Editor's note: PLMN must be replaced with MNC, MCC values]

Test procedure

a) The SS activates the cells. The SS monitors for RA attempts from the UE on cells 1, 2 and 3 for the duration of the test.

b) The UE is switched on.

c) 50 seconds after switch on, an emergency call is initiated on the UE.

d) The SS waits for random access request from the UE.

e) The SS changes the CellBarred of Cell 1 to 0.

f) After 12 seconds an emergency call is initiated on the UE.

NOTE: 1280 msec. for DRX cycle + 1280 msec. for system info scheduling + 5 sec. actual reselection time + 1280 msec. for reading neighbour BCCH + 25%. Allow 12 sec.

g) The SS waits for random access request from the UE.

6.1.2.9.5~~3.8.5~~ Test requirements

1) In step d), the first access from the UE shall be on Cell 3.

2) In step g), the first access from the UE shall be on Cell 1.

6.1.2.10~~3.9~~ Immediate cell evaluation

6.1.2.10.1~~3.9.1~~ Definition

Test to verify that the UE performs the Immediate cell evaluation procedure correctly and selects the best cell among the cells on the same frequency.

6.1.2.10.2~~3.9.2~~ Conformance requirement

1. When UE leaves idle mode, state *Camped normally*, in order to enter connected mode, state *Connected mode*, the UE shall use the *Immediate cell evaluation* procedure (UTRA only) in order to select the best cell on the current frequency for the access attempt. This procedure allows the UE to reduce power consumption spent on radio measurements, still enabling the UE to select the best cell for access, thus minimising the interference in the system. If no suitable cell is found, the UE shall use the *Cell reselection* procedure.

2. The immediate cell evaluation shall be triggered prior to RACH transmission.

3. The transition to the UTRAN Connected Mode from the Idle Mode can only be initiated by the UE by transmitting a request for an RRC Connection. The event is triggered either by a paging request from the network or by a request from upper layers in the UE. When the UE receives a message from the network that confirms the RRC connection establishment, the UE enters the CELL_FACH or CELL_DCH state of UTRAN Connected Mode.

4. The following steps shall be carried out when an immediate cell evaluation has been triggered:

   4.1 The candidate list of potential cells to camp on consists of the cells in the current registration area listed for intra-frequency measurements in system information of the serving cell.

   4.2 For each cell on the candidate list, measure the quality value, $Q_{meas,LEV}$

   4.3 For each cell on the candidate list calculate the cell selection values, Squal and Srxlev

   4.4 Rank the cells and select the best cell

   4.5 Select the neighbouring cell that fulfils the $Q_{map,n} > Q_{map,s} + Qoffset_{s,n}$ criteria best.
   If the best cell does not fulfil all other requirements for a suitable cell, UE shall trigger cell re-selection

5. If more than one neighbouring cell fulfils the criteria, the UE shall choose the cell where the difference between $Q_{map,n}$ and ($Q_{map,s}$ + Qoffset) is highest. If no neighbouring cell fulfils the criteria, the UE shall keep the serving cell.

References

1. TS 25.304, 5.2.1
2. TS 25.304, 5.2.2.2.1
3. TS 25.331, 9.2
4. TS 25.304, 5.2.2.2.1
5. TS 25.304, 5.2.2.2.2

6.1.2.10.3~~3.9.3~~ Test purpose

To verify that

1. The UE meets conformance requirement 1.
2. The UE meets conformance requirement 4
3. The UE meets conformance requirement 5

6.1.2.10.4~~3.9.4~~ Method of test

Initial conditions

The Q_s + $Qoffset_{s,n}$ difference between the cells shall be:

T1: Cell 4 (other freq.) > Cell 1 > Cell 2 > Cell 3

T2: Cell 4 (other freq.) > Cell 2 > Cell 1 > Cell 3

Offset parameters are applied to the cell-ranking criterion R to ensure normal cell reselection is not triggered but instead cell evaluation.

Parameters changed from the default values in table 6.1.3.1.

Parameter	Unit	Cell 1	Cell 2		Cell 3		Cell 4
			T1	T2	T1	T2	
UTRA RF Channel Number		UARFCN 1	UARFCN 1		UARFCN 1		UARFCN 2
$\hat{I}_{or}/I_{oc}$	dBm	7.5	4.5		2.5		5.87
CPICH_Ec/Io	dB	-13	-16		-18		-11
CPICH_RSCP	dBm	-73	-76		-78		-74
Qqualmin	dB	-20	-20		-20		-20
Qrxlevmin	dBm	-100	-100		-100		-100
Squal	dB	7	4		2		9
Srxlev	dBm	27	24		22		26
$Qhyst_s$	dB	20	20		20		20
$Treselection_s$	sec	-	-		-		-
$PENALTY\_TIME_n$	sec	-	-		-		-
$TEMP\_OFFSET_n$	dB	20	20		20		20
CellBarred		0	0		0		0
n		n=2,3:	n=1,3:		n=1,2:		n=1,2,3:
$Qoffset_{s,n}$	dB	0	0	4	0	4	0
$Q_s + Qoffset_{s,n}$	dB	-13	-16	-12	-18	-14	-11

Test procedure

a) The SS activates cell 1-4 according to T1. The SS monitors cells 1, 2 and 3 for random access requests from the UE.

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) The parameters are changed as described for T2

e) A call is initiated on the UE

f) The UE transmits an RRC CONNECTION REQ and the SS sends a RRC CONNECTION CNF.

g) The SS waits for random access request from the UE

[Editor's note: How do we ensure that the cell is found is Immediate Cell Evaluation and not during Connected Mode ?]

6.1.2.10.5~~3.9.5~~ Test Requirements

1) In step c), the UE shall respond on Cell 1 within 33 seconds (Initial cell selection in Idle mode)

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the initial cell selection time. UMTS should not have worse performance than GSM]

2) In step g), the UE shall respond on Cell 2 within [TBD] seconds (Immediate Cell Evaluation)

~~6.1.3.10 Reading SIB prior to RACH transmission~~

~~FFS.~~

~~6.1.4 Location registration~~

~~UE location registration capabilities are tested under clause 9.4 ,.~~

6.2 Multi-mode environment (2G/3G case)

6.2.1 PLMN and RAT selection and reselection

6.2.1.1 Selection of the correct combination of PLMN and associated RAT

6.2.1.1.1 Definition

Test to verify that the UE selects the correct combination of PLMN and associated access technology according to the fields on the USIM.

6.2.1.1.2 Conformance requirement

1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.

   On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.

   If successful registration is achieved, the MS indicates the selected PLMN.

   If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

References

1. TS 23.122, 4.4.3.1

NOTE: TS 31.102 defines the USIM fields

6.2.1.1.3 Test purpose

1. To verify that the UE selects the correct combination of PLMN and associated access technology according to the fields on the USIM.

6.2.1.1.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Parameters changed from the default values in table 6.1.3.1.

Cell	PLMN	Radio Access Technology
Cell 1	PLMN 1	GSM
Cell 2	PLMN 1	UTRAN
Cell 3	PLMN 2	UTRAN
Cell 4	PLMN 2	GSM

The UE is equipped with a USIM containing default values except for those listed below.

USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 1	UTRAN
	2nd		

USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 2	UTRAN
$EF_{HPLMNwAcT}$	1st	PLMN 2	GSM
	2nd		

Test procedure

a) The SS activates cells 1-4 and monitors the cells for random access requests from the UE. The UE shall have a USIM with settings according to USIM A.

b) The UE is switched on

c) The SS waits for random access requests from the UE

d) The UE is switched off and a USIM with settings according to USIM B is inserted

e) The UE is switched on

f) The SS waits for random access requests from the UE

6.2.1.1.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN1 (GSM) within [FFS seconds].

2) In step f), the response from the UE shall be on Cell 3. The displayed PLMN shall be PLMN2 (UTRAN) within [FFS seconds].

6.2.1.2 Selection of RAT for RPLMN

6.2.1.2.1 Definition

Test to verify that the UE selects the correct access technology for the registered PLMN at switch-on if a cell with the Last Used Access Technology is not available.

6.2.1.2.2 Conformance requirement

1. At switch on, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and attempts to perform a Location Registration. The MS shall start its search using the access technology type stored in the RPLMN Last Used Access Technology data field on the SIM. If the RPLMN Last Used Access Technology is not available then an MS capable of GSM access technology shall start its search using GSM access technology.

   On recovery from lack of coverage, the MS selects the registered PLMN (if it is available) using all access technologies that the MS is capable of and, if necessary attempts to perform a Location Registration.

   If successful registration is achieved, the MS indicates the selected PLMN.

If there is no registered PLMN, or if registration is not possible due to the PLMN being unavailable or registration failure, the MS follows either Automatic or Manual Network Selection Mode Procedure depending on its operating mode.

References

1. TS 23.122, 4.4.3.1

NOTE: TS 31.102 defines the USIM fields

6.2.1.2.3 Test purpose

1. To verify that at switch-on, if a cell with the RPLMN Last Used Access Technology is not available, the UE tries to obtain registration on the same PLMN using other UE-supported RATs.

6.2.1.2.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Parameters changed from the default values in table 6.1.3.1.

Cell	PLMN	Radio Access Technology
Cell 1	PLMN 1	UTRAN
Cell 2	PLMN 2	UTRAN
Cell 3	PLMN 2	GSM

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		

Test procedure

a) The SS activates cells 1-3 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) The SS waits for random access requests from the UE

6.2.1.2.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 1. The displayed PLMN shall be PLMN1 (UTRAN) within [FFS seconds]. (The preferred PLMN1 network is not available on GSM so registration is attempted using other UE-supported RATs)

6.2.1.3 Selection of RAT for HPLMN; Manual mode

6.2.1.3.1 Definition

Test to verify that the UE selects the HPLMN RAT according to the HPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall try to obtain registration on the same PLMN using other UE-supported RATs.

6.2.1.3.2 Conformance requirement

1. To allow provision for multiple HPLMN codes, the HPLMN access technologies are stored on the SIM using the same format as the User Controlled PLMN Selector with Access Technology and Operator Controlled PLMN Selector with Access Technology data fields. It is assumed in this version of the specification that this HPLMN Selector with Access Technology data field should contain only one PLMN code identical to the HPLMN code included in the IMSI. Although this single code may be duplicated in the list if multiple access technologies with priority is defined.

2. Manual Network Selection Mode Procedure:

   The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes "Forbidden PLMNs" and PLMNs which only offer services not supported by the MS.

   If displayed, PLMNs meeting the criteria above are presented in the following order:

   2.1 HPLMN;

   2.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   2.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   2.4 Other PLMN/access technology combinations with received high quality signal in random order;

   2.5 Other PLMN/access technology combinations in order of decreasing signal quality.

   The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the forbidden LAI and PLMN lists.

   If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

NOTE: It is an MS implementation option whether to indicate access technologies to the user. If the MS does display access technologies, then the access technology used should be the access technology chosen by the user for that PLMN. If the MS does not display access technologies, then the access technology chosen for a particular PLMN should be the highest priority available access technology for that PLMN, if the associated access technologies have a priority order.

References

1. TS 23.122, 4.4.3 and 4.4.3.1.1 (f)

2. TS 23.122, 4.4.3.1.2

NOTE: TS 31.102 defines the USIM fields

6.2.1.3.3 Test purpose

1. To verify that,

   1.1 the UE searches for a HPLMN RAT according to the HPLMN Selector with Access Technology data field on the USIM in priority order

   1.2 If no RAT on the priority list is available, the UE tries to obtain registration on the same PLMN using other UE-supported RATs.

6.2.1.3.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Parameters changed from the default values in table 6.1.3.1.

Cell	PLMN	Radio Access Technology
Cell 1	PLMN 2	UTRAN
Cell 2	PLMN 2	GSM
Cell 3	PLMN 3	UTRAN
Cell 4	PLMN 3	GSM

The UE is equipped with a USIM containing default values except for those listed below.

USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM

USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		

Test procedure

a) The SS activates cells 1-4 and monitors the cells for random access requests from the UE. The UE shall have a USIM with settings according to USIM A.

b) The UE is switched on

c) PLMN2 (UTRAN) shall be selected when the PLMN list is presented

d) The SS waits for random access requests from the UE

e) Cell 1 is switched off

f) PLMN2 (GSM) shall be selected when the PLMN list is presented

g) The SS waits for random access requests from the UE

h) The UE is switched off and a USIM with settings according to USIM B is inserted. All cells except Cell 1 are active.

i) The UE is switched on

j) PLMN2 (GSM) shall be selected when the PLMN list is presented

k) The SS waits for random access requests from the UE

6.2.1.3.5 Test Requirements

1) In step c), the list shall be presented within [FFS seconds]. It shall contain PLMN2 (UTRAN as number 1 on the list and GSM as number 2).

2) In step d), the response from the UE shall be on Cell 1 (1st priority RAT for $EF_{HPLMNwAcT}$). The displayed PLMN shall be PLMN2 (UTRAN) within [FFS seconds].

3) In step f), the list shall be presented within [FFS seconds]. It shall contain PLMN2 (GSM) as number 1.

4) In step g), the response from the UE shall be on Cell 2 (2nd priority RAT for $EF_{HPLMNwAcT}$). The displayed PLMN shall be PLMN2 (GSM) within [FFS seconds].

5) In step j), the list shall be presented within [FFS seconds]. It shall contain PLMN2 (GSM) as number 1.

6) In step k), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN2 (GSM) within [FFS seconds]. (PLMN2 is not available on UTRAN so registration on the same PLMN is attempted using other UE-supported RATs).

6.2.1.4 Selection of RAT for UPLMN; Manual mode

6.2.1.4.1 Definition

Test to verify that the UE selects the UPLMN RAT according to the UPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall not try to obtain registration on the same PLMN(s) with other RAT(s) but instead search for PLMNs in the OPLMN list.

6.2.1.4.2 Conformance requirement

1. Manual Network Selection Mode Procedure:

   The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes "Forbidden PLMNs" and PLMNs which only offer services not supported by the MS.

   If displayed, PLMNs meeting the criteria above are presented in the following order:

   1.1 HPLMN;

   1.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   1.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   1.4 Other PLMN/access technology combinations with received high quality signal in random order;

   1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

   The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the forbidden LAI and PLMN lists.

   If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

NOTE: It is an MS implementation option whether to indicate access technologies to the user. If the MS does display access technologies, then the access technology used should be the access technology chosen by the user for that PLMN. If the MS does not display access technologies, then the access technology chosen for a particular PLMN should be the highest priority available access technology for that PLMN, if the associated access technologies have a priority order.

References

1. TS 23.122, 4.4.3.1.2

NOTE: TS 31.102 defines the USIM fields

6.2.1.4.3 Test purpose

1. To verify that,

   1.1 the UE selects the UPLMN RAT according to the UPLMN RAT priority list on the USIM.

   1.2 If no RAT on the list is available, the UE does not try to obtain registration on the same PLMN with another RAT but instead searches for PLMNs in the OPLMN list.

6.2.1.4.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Parameters changed from the default values in table 6.1.3.1.

Cell	PLMN	Radio Access Technology
Cell 1	PLMN 3	UTRAN
Cell 2	PLMN 3	GSM
Cell 3	PLMN 4	UTRAN
Cell 4	PLMN 4	GSM
Cell 5	PLMN 5	UTRAN

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM
$EF_{PLMNwACT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	GSM
$EF_{OPLMNwACT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	GSM

Test procedure

a) The SS activates cells 1-5 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) PLMN3 (UTRAN) shall be selected when the PLMN list is presented

d) The SS waits for random access requests from the UE

e) Cell 1 is switched off

f) PLMN4 (GSM) shall be selected when the PLMN list is presented

g) The SS waits for random access requests from the UE

h) Cell 4 is switched off

i) PLMN5 (UTRAN) shall be selected when the PLMN list is presented

j) The SS waits for random access requests from the UE

6.2.1.4.5 Test Requirements

1) In step c), the list shall be presented within [FFS seconds]. It shall contain PLMN3 (UTRAN) as number 1 and PLMN4 (GSM) as number 2.

2) In step d), the response from the UE shall be on Cell 1 (1st priority RAT for $EF_{PLMNwACT}$). The displayed PLMN shall be PLMN3 (UTRAN) within [FFS seconds].

3) In step f), the list shall be presented within [FFS seconds]. It shall contain PLMN4 (GSM) as number 1 and PLMN5 (UTRAN) as number 2.

4) In step g), the response from the UE shall be on Cell 4 (2nd priority RAT for $EF_{PLMNwACT}$). The displayed PLMN shall be PLMN4 (GSM) within [FFS seconds].

5) In step i), the list shall be presented within [FFS seconds]. It shall contain PLMN5 (UTRAN) as number 1.

6) In step j), the response from the UE shall be on Cell 5 (1st priority RAT for $EF_{OPLMNwACT}$). The displayed PLMN shall be PLMN5 (UTRAN) within [FFS seconds].

6.2.1.5 Selection of RAT for OPLMN; Manual mode

6.2.1.5.1 Definition

Test to verify that the UE selects the OPLMN RAT according to the OPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall not try to obtain registration on the same PLMN(s) with other RAT(s) but instead search for other PLMN/access technology combinations with received high quality signal in random order.

6.2.1.5.2 Conformance requirement

1. Manual Network Selection Mode Procedure:

   The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes "Forbidden PLMNs" and PLMNs which only offer services not supported by the MS.

   If displayed, PLMNs meeting the criteria above are presented in the following order:

   1.1 HPLMN;

   1.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   1.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   1.4 Other PLMN/access technology combinations with received high quality signal in random order;

   1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

   The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the

presentation of PLMNs). For such a registration, the MS shall ignore the contents of the forbidden LAI and PLMN lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

NOTE: It is an MS implementation option whether to indicate access technologies to the user. If the MS does display access technologies, then the access technology used should be the access technology chosen by the user for that PLMN. If the MS does not display access technologies, then the access technology chosen for a particular PLMN should be the highest priority available access technology for that PLMN, if the associated access technologies have a priority order.

References

1. TS 23.122, 4.4.3.1.2

NOTE: TS 31.102 defines the USIM fields

6.2.1.5.3 Test purpose

1. To verify that,

1.1 the UE selects the OPLMN RAT according to the OPLMN RAT priority list on the USIM.

1.2 If no RAT on the list is available, the UE does not try to obtain registration on the same PLMN(s) with other RAT(s) but instead searches for “other PLMN/access technology combinations with received high quality signal in random order”.

6.2.1.5.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Parameters changed from the default values in table 6.1.3.1.

Cell	“High Quality signal”	PLMN	Radio Access Technology
Cell 1		PLMN 5	UTRAN
Cell 2	No	PLMN 5	GSM
Cell 3	No	PLMN 6	UTRAN
Cell 4		PLMN 6	GSM
Cell 5	Yes	PLMN 7	UTRAN

NOTE: “High Quality signal” has not yet been defined in 3GPP.

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM
$EF_{PLMNwACT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	GSM
$EF_{OPLMNwACT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	GSM

Test procedure

a) The SS activates cells 1-5 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) PLMN5 (UTRAN) shall be selected when the PLMN list is presented

d) The SS waits for random access requests from the UE

e) Cell 1 is switched off

f) PLMN6 (GSM) shall be selected when the PLMN list is presented

g) The SS waits for random access requests from the UE

h) Cell 4 is switched off

i) PLMN7 (UTRAN) shall be selected when the PLMN list is presented

j) The SS waits for random access requests from the UE

6.2.1.5.5 Test Requirements

1) In step c), the list shall be presented within [FFS seconds]. It shall contain PLMN5 (UTRAN) as number 1 and PLMN6 (GSM) as number 2.

2) In step d), the response from the UE shall be on Cell 1 (1st priority RAT for $EF_{OPLMNwACT}$). The displayed PLMN shall be PLMN5 (UTRAN) within [FFS seconds].

3) In step f), the list shall be presented within [FFS seconds]. It shall contain PLMN6 (GSM) as number 1 and PLMN7 (UTRAN) as number 2.

4) In step g), the response from the UE shall be on Cell 4 (2nd priority RAT for $EF_{OPLMNwACT}$). The displayed PLMN shall be PLMN6 (GSM) within [FFS seconds].

5) In step i), the list shall be presented within [FFS seconds]. It shall contain PLMN7 (UTRAN) as number 1.

6) In step j), the response from the UE shall be on Cell 5 (other PLMN/access technology combination). The displayed PLMN shall be PLMN7 (UTRAN) within [FFS seconds].

6.2.1.6 Selection of “Other PLMN / access technology combinations”; Manual mode

6.2.1.6.1 Definition

Test to verify that if neither RPLMN, HPLMN, UPLMN nor OPLMN is available, the UE first tries to obtain registration on “Other PLMN/access technology combinations with received high quality signal in random order” and secondly on “Other PLMN/access technology combinations in order of decreasing signal quality”.

6.2.1.6.2 Conformance requirement

1. Manual Network Selection Mode Procedure:

   The MS indicates whether there are any PLMNs, which are available using all supported access technologies. This includes "Forbidden PLMNs" and PLMNs which only offer services not supported by the MS.

   If displayed, PLMNs meeting the criteria above are presented in the following order:

   1.1 HPLMN;

   1.2 PLMNs contained in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

   1.3 PLMNs contained in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order);

1.4 Other PLMN/access technology combinations with received high quality signal in random order;

1.5 Other PLMN/access technology combinations in order of decreasing signal quality.

The user may select his desired PLMN and the MS then initiates registration on this PLMN using the access technology chosen by the user for that PLMN or using the highest priority available access technology for that PLMN, if the associated access technologies have a priority order. (This may take place at any time during the presentation of PLMNs). For such a registration, the MS shall ignore the contents of the forbidden LAI and PLMN lists.

If the user does not select a PLMN, the selected PLMN shall be the one that was selected before the PLMN selection procedure started. If no such PLMN was selected or that PLMN is no longer available, then the MS shall attempt to camp on any acceptable cell and enter the limited service state.

NOTE: It is an MS implementation option whether to indicate access technologies to the user. If the MS does display access technologies, then the access technology used should be the access technology chosen by the user for that PLMN. If the MS does not display access technologies, then the access technology chosen for a particular PLMN should be the highest priority available access technology for that PLMN, if the associated access technologies have a priority order.

References

1. TS 23.122, 4.4.3.1.2

NOTE: TS 31.102 defines the USIM fields

6.2.1.6.3 Test purpose

1. To verify that,

   1.1 If neither RPLMN, HPLMN, UPLMN nor OPLMN is available, the UE tries to obtain registration on “Other PLMN/access technology combinations with received high quality signal in random order”

   1.2 If no PLMN is available in test purpose 1.1, the UE tries to obtain registration on “Other PLMN/access technology combinations in order of decreasing signal quality”

2. The “random order” in test purpose 1.1 is not verified

6.2.1.6.4 Method of test

Initial conditions

The UE is in manual PLMN selection mode.

Parameters changed from the default values in table 6.1.3.1.

Cell	Signal level [dBm]	“High Quality signal”	PLMN	Radio Access Technology
Cell 1	-80	Yes	PLMN 7	UTRAN
Cell 2	-80	Yes	PLMN 8	GSM
Cell 3	-85	No	PLMN 9	UTRAN
Cell 4	-90	No	PLMN 10	GSM
Cell 5	-95	No	PLMN 11	UTRAN
Cell 6	-100	No	PLMN 12	GSM

NOTE: “High Quality signal” has not yet been defined in 3GPP.

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM
$EF_{PLMNwACT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	GSM
$EF_{OPLMNwACT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	GSM
EF_{FPLMN}	PLMN 7		
	PLMN 12		

NOTE: PLMN 7 and PLMN 12 are forbidden.

Test procedure

a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) PLMN11 shall be selected when the PLMN list is presented

d) The SS waits for random access requests from the UE

e) Cell 5 is switched off

f) PLMN8 shall be selected when the PLMN list is presented

g) The SS waits for random access requests from the UE

h) Cell 2 is switched off

i) PLMN10 shall be selected when the PLMN list is presented

j) The SS waits for random access requests from the UE

k) Cell 4 is switched off

l) PLMN7 shall be selected when the PLMN list is presented. The SS shall reject the Registration Request from the UE.

m) Cell 1 is switched off

n) PLMN9 shall be selected when the PLMN list is presented

o) The SS waits for random access requests from the UE

p) Cell 3 is switched off

q) PLMN12 shall be selected when the PLMN list is presented. The SS shall reject the Registration Request from the UE.

r) Cell 6 is switched off

6.2.1.6.5 Test Requirements

1) In step c), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN7, PLMN8 in random order, followed by PLMN9, PLMN10, PLMN11, PLMN12.

2) In step d), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN11 within [FFS seconds].

3) In step f), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN7, PLMN8 in random order, followed by PLMN9, PLMN10, PLMN12.

4) In step g), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN8 within [FFS seconds].

5) In step i), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN7, PLMN9, PLMN10, PLMN12.

6) In step j), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN10 within [FFS seconds].

7) In step l), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN7, PLMN9, PLMN12. After the PLMN has been selected, the list shall appear again as the UE cannot perform registration.

9) In step n), the list shall be presented within [FFS seconds]. The priority shall be as follows: PLMN9, PLMN12.

10) In step o), the response from the UE shall be on Cell 3. The displayed PLMN shall be PLMN9 within [FFS seconds].

11) In step q), the list shall be presented within [FFS seconds] and shall only contain PLMN12. After the PLMN has been selected, the list shall appear again as the UE cannot perform registration.

13) After step r), the UE shall inform within [FFS seconds] that no network is available

6.2.1.7 Selection of RAT for HPLMN; Automatic mode

6.2.1.7.1 Definition

Test to verify that the UE selects the HPLMN RAT according to the HPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall try to obtain registration on the same PLMN using other UE-supported RATs.

6.2.1.7.2 Conformance requirement

1. To allow provision for multiple HPLMN codes, the HPLMN access technologies are stored on the SIM using the same format as the User Controlled PLMN Selector with Access Technology and Operator Controlled PLMN Selector with Access Technology data fields. It is assumed in this version of the specification that this HPLMN Selector with Access Technology data field should contain only one PLMN code identical to the HPLMN code included in the IMSI. Although this single code may be duplicated in the list if multiple access technologies with priority is defined.

NOTE: In selecting a HPLMN, the MS shall search for all access technologies it is capable of. The MS shall start its search using the access technologies stored in the HPLMN Selector with Access Technology data field on the SIM in priority order.

2. Automatic Network Selection Mode Procedure:

The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

2.1 HPLMN (if not previously selected);

2.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

2.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

2.4 Other PLMN/access technology combinations with received high quality signal in random order

2.5 Other PLMN/access technology combinations in order of decreasing signal quality

If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in a forbidden LAI list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

References

1. TS 23.122, 4.4.3 and 4.4.3.1.1 (f)

2. TS 23.122, 4.4.3.1.1

NOTE: TS 31.102 defines the USIM fields

6.2.1.7.3 Test purpose

1. To verify that,

1.1 the UE searches for a HPLMN RAT according to the HPLMN Selector with Access Technology data field on the USIM in priority order

1.2 If no RAT on the priority list is available, the UE tries to obtain registration on the same PLMN using other UE-supported RATs.

6.2.1.7.4 Method of test

Initial conditions

The UE is in automatic mode PLMN selection.

MCC of HPLMN shall be different from other PLMNs in the network to avoid periodic search for HPLMN.

Parameters changed from the default values in table 6.1.3.1.

Cell	PLMN	Radio Access Technology
Cell 1	PLMN 2	UTRAN
Cell 2	PLMN 2	GSM
Cell 3	PLMN 3	UTRAN
Cell 4	PLMN 3	GSM

The UE is equipped with a USIM containing default values except for those listed below.

USIM A

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM

USIM B

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		

Test procedure

a) The SS activates cells 1-4 and monitors the cells for random access requests from the UE. The UE shall have a USIM with settings according to USIM A.

b) The UE is switched on

c) The SS waits for random access requests from the UE

d) The UE is switched off and a USIM with settings according to USIM A is again inserted. All cells except Cell 1 are active.

e) The SS waits for random access requests from the UE

f) The UE is switched off and a USIM with settings according to USIM B is inserted. All cells except Cell 1 are active.

g) The UE is switched on

h) The SS waits for random access requests from the UE

6.2.1.7.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 1 (1st priority RAT for $EF_{HPLMNwAcT}$). The displayed PLMN shall be PLMN2 (UTRAN) within [FFS seconds].

2) In step e), the response from the UE shall be on Cell 2 (2nd priority RAT for $EF_{HPLMNwAcT}$). The displayed PLMN shall be PLMN2 (GSM) within [FFS seconds].

3) In step h), the response from the UE shall be on Cell 2. The displayed PLMN shall be PLMN2 (GSM) within [FFS seconds]. (PLMN2 is not available on UTRAN so registration on the same PLMN is attempted using other UE-supported RATs).

6.2.1.8 Selection of RAT for UPLMN; Automatic mode

6.2.1.8.1 Definition

Test to verify that the UE selects the UPLMN RAT according to the UPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall not try to obtain registration on the same PLMN(s) with other RAT(s) but instead search for PLMNs in the OPLMN list.

6.2.1.8.2 Conformance requirement

1. Automatic Network Selection Mode Procedure:

   The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

   1.1 HPLMN (if not previously selected);

   1.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

   1.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

   1.4 Other PLMN/access technology combinations with received high quality signal in random order

   1.5 Other PLMN/access technology combinations in order of decreasing signal quality

   If successful registration is achieved, the MS indicates the selected PLMN.

If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in a forbidden LAI list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

References

1. TS 23.122, 4.4.3.1.1

NOTE: TS 31.102 defines the USIM fields

6.2.1.8.3 Test purpose

1. To verify that,

1.1 the UE selects the UPLMN RAT according to the UPLMN RAT priority list on the USIM.

1.2 If no RAT on the list is available, the UE does not try to obtain registration on the same PLMN with another RAT but instead searches for PLMNs in the OPLMN list.

6.2.1.8.4 Method of test

Initial conditions

The UE is in automatic mode PLMN selection.

MCC of HPLMN shall be different from other PLMNs in the network to avoid periodic search for HPLMN.

Parameters changed from the default values in table 6.1.3.1.

Cell	PLMN	Radio Access Technology
Cell 1	PLMN 3	UTRAN
Cell 2	PLMN 3	GSM
Cell 3	PLMN 4	UTRAN
Cell 4	PLMN 4	GSM
Cell 5	PLMN 5	UTRAN

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM
$EF_{PLMNwACT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	GSM
$EF_{OPLMNwACT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	GSM

Test procedure

a) The SS activates cells 1-5 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) The SS waits for random access requests from the UE

d) Cell 1 is switched off

e) The SS waits for random access requests from the UE

f) Cell 4 is switched off

g) The SS waits for random access requests from the UE

6.2.1.8.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 1 (1st priority RAT for $EF_{PLMNwACT}$). The displayed PLMN shall be PLMN3 (UTRAN) within [FFS seconds].

2) In step e), the response from the UE shall be on Cell 4 (2nd priority RAT for $EF_{PLMNwACT}$). The displayed PLMN shall be PLMN4 (GSM) within [FFS seconds].

3) In step g), the response from the UE shall be on Cell 5 (1st priority RAT for $EF_{OPLMNwACT}$). The displayed PLMN shall be PLMN5 (UTRAN) within [FFS seconds].

6.2.1.9 Selection of RAT for OPLMN; Automatic mode

6.2.1.9.1 Definition

Test to verify that the UE selects the OPLMN RAT according to the OPLMN RAT priority list on the USIM. If no RAT on the list is available, the UE shall not try to obtain registration on the same PLMN(s) with other RAT(s) but instead search for other PLMN/access technology combinations with received high quality signal in random order.

6.2.1.9.2 Conformance requirement

1. Automatic Network Selection Mode Procedure:

   The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

   1.1 HPLMN (if not previously selected);

   1.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

   1.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

   1.4 Other PLMN/access technology combinations with received high quality signal in random order

   1.5 Other PLMN/access technology combinations in order of decreasing signal quality

   If successful registration is achieved, the MS indicates the selected PLMN.

   If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

   If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in a forbidden LAI list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

References

1. TS 23.122, 4.4.3.1.1

NOTE: TS 31.102 defines the USIM fields

6.2.1.9.3 Test purpose

1. To verify that,

1.1 the UE selects the OPLMN RAT according to the OPLMN RAT priority list on the USIM.

1.2 If no RAT on the list is available, the UE does not try to obtain registration on the same PLMN(s) with other RAT(s) but instead searches for "other PLMN/access technology combinations with received high quality signal in random order".

6.2.1.9.4 Method of test

Initial conditions

The UE is in automatic mode PLMN selection.

MCC of HPLMN shall be different from other PLMNs in the network to avoid periodic search for HPLMN.

Parameters changed from the default values in table 6.1.3.1.

Cell	"High Quality signal"	PLMN	Radio Access Technology
Cell 1		PLMN 5	UTRAN
Cell 2	No	PLMN 5	GSM
Cell 3	No	PLMN 6	UTRAN
Cell 4		PLMN 6	GSM
Cell 5	Yes	PLMN 7	UTRAN

NOTE: "High Quality signal" has not yet been defined in 3GPP.

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM
$EF_{PLMNwACT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	GSM
$EF_{OPLMNwACT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	GSM

Test procedure

a) The SS activates cells 1-5 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) The SS waits for random access requests from the UE

d) Cell 1 is switched off

e) The SS waits for random access requests from the UE

f) Cell 4 is switched off

g) The SS waits for random access requests from the UE

6.2.1.9.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 1 (1st priority RAT for $EF_{OPLMNwACT}$). The displayed PLMN shall be PLMN5 (UTRAN) within [FFS seconds].

2) In step e), the response from the UE shall be on Cell 4 (2nd priority RAT for $EF_{OPLMNwACT}$). The displayed PLMN shall be PLMN6 (GSM) within [FFS seconds].

3) In step g), the response from the UE shall be on Cell 5 (other PLMN/access technology combination). The displayed PLMN shall be PLMN7 (UTRAN) within [FFS seconds].

6.2.1.10 Selection of “Other PLMN / access technology combinations”; Automatic mode

6.2.1.10.1 Definition

Test to verify that if neither RPLMN, HPLMN, UPLMN nor OPLMN is available, the UE first tries to obtain registration on “Other PLMN/access technology combinations with received high quality signal in random order” and secondly on “Other PLMN/access technology combinations in order of decreasing signal quality”.

6.2.1.10.2 Conformance requirement

1. Automatic Network Selection Mode Procedure:

   The MS selects and attempts registration on other PLMNs, if available and allowable in the following order:

   1.1 HPLMN (if not previously selected);

   1.2 Each PLMN in the "User Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

   1.3 Each PLMN in the "Operator Controlled PLMN Selector with Access Technology" data field in the SIM (in priority order)

   1.4 Other PLMN/access technology combinations with received high quality signal in random order

   1.5 Other PLMN/access technology combinations in order of decreasing signal quality

   If successful registration is achieved, the MS indicates the selected PLMN.

   If registration cannot be achieved because no PLMNs are available and allowable, the MS indicates "no service" to the user, waits until a new PLMN is available and allowable and then repeats the procedure.

   If there were one or more PLMNs which were available and allowable, but an LR failure made registration on those PLMNs unsuccessful or an entry in a forbidden LAI list prevented a registration attempt, the MS selects the first such PLMN again and enters a limited service state.

References

1. TS 23.122, 4.4.3.1.1

NOTE: TS 31.102 defines the USIM fields

6.2.1.10.3 Test purpose

1. To verify that,

   1.1 If neither RPLMN, HPLMN, UPLMN nor OPLMN is available, the UE tries to obtain registration on “Other PLMN/access technology combinations with received high quality signal in random order”

   1.2 If no PLMN is available in test purpose 1.1, the UE tries to obtain registration on “Other PLMN/access technology combinations in order of decreasing signal quality”

2. The “random order” in test purpose 1.1 is not verified

6.2.1.10.4 Method of test

Initial conditions

The UE is in automatic PLMN selection mode.

Parameters changed from the default values in table 6.1.3.1.

Cell	Signal level [dBm]	"High Quality signal"	PLMN	Radio Access Technology
Cell 1	-80	Yes	PLMN 7	UTRAN
Cell 2	-80	Yes	PLMN 8	GSM
Cell 3	-85	No	PLMN 9	UTRAN
Cell 4	-90	No	PLMN 10	GSM
Cell 5	-95	No	PLMN 11	UTRAN
Cell 6	-100	No	PLMN 12	GSM

NOTE: "High Quality signal" has not yet been defined in 3GPP.

The UE is equipped with a USIM containing default values except for those listed below.

USIM field	Priority	PLMN	Access Technology Identifier
EF_{LOCI}, $EF_{RPLMNACT}$		PLMN 1	GSM
$EF_{HPLMNwAcT}$	1st	PLMN 2	UTRAN
	2nd		GSM
$EF_{PLMNwACT}$	1st	PLMN 3	UTRAN
	2nd	PLMN 4	GSM
$EF_{OPLMNwACT}$	1st	PLMN 5	UTRAN
	2nd	PLMN 6	GSM
EF_{FPLMN}	PLMN 7		
	PLMN 12		

Test procedure

a) The SS activates cells 1-6 and monitors the cells for random access requests from the UE

b) The UE is switched on

c) The SS waits for random access requests from the UE

d) Cell 2 is switched off

e) The SS waits for random access requests from the UE

f) Cell 3 is switched off

g) The SS waits for random access requests from the UE

h) Cell 4 is switched off

i) The SS waits for random access requests from the UE

j) Cell 5 is switched off

6.2.1.10.5 Test Requirements

1) In step c), the response from the UE shall be on Cell 2. The displayed PLMN8 within [FFS seconds].

2) In step e), the response from the UE shall be on Cell 3. The displayed PLMN shall be PLMN9 within [FFS seconds].

3) In step g), the response from the UE shall be on Cell 4. The displayed PLMN shall be PLMN10 within [FFS seconds].

4) In step i), the response from the UE shall be on Cell 5. The displayed PLMN shall be PLMN11 within [FFS seconds].

5) After step j), the UE shall inform within [FFS seconds] that only limited service is possible.

6.2.2 Cell selection and reselection

6.2.2.1 Cell selection; UTRAN / GSM

6.2.2.1.1 Definition

Test to verify that the UE performs cell selection correctly when both a GSM and UTRA network is available.

6.2.2.1.2 Conformance requirement

1. Cell selection procedure to find a suitable cell to camp on:

   1.1 Create a candidate list of potential cells to camp on, using:

      1.1.1 Initial Cell Selection procedure; or

      1.1.2 Stored Information Cell Selection procedure

   1.2 For each cell on the candidate list, measure the quality value, $Q_{meas,LEV}$

   1.3 For each cell on the candidate list calculate the cell selection value, Squal and Srxlev

   1.4 Rank the cells and select the best cell

   1.5 Select the cell that fulfils the criteria $Q_{map,n} > Q_{map,s} + Q_{offsets,n}$ best. Check if the selected cell fulfils all requirements for a suitable cell. If so, choose this cell to camp on. If this cell does not fulfil all requirements for a suitable cell, this cell and all cells on the same frequency shall be removed as candidates for cell selection in case the barred cell does not accept intra-frequency cell selection and re-selection. On the other hand, in case the barred cell accepts intra-frequency cell selection and re-selection, only the barred cell shall be removed as candidate for cell selection, and step 1.4 shall be repeated for the remaining cells.

2. Different types of measurements are used in different radio access technologies and modes for the cell selection and reselection (CPICH Ec/N0 or CPICH SIR in UTRA FDD, P-CCPCH RSCP in UTRA TDD, RXLEV in GSM). Whenever a direct comparison of these measurements is required, mapping functions shall be applied. Mapping functions are used for mapping a certain range of measurement values Q_{meas_LEV} (CPICH_EC/N0, CPICH_RSCP_LEV, P-CCPCH_RSCP_LEV, RXLEV) to a representing quality value Q_{map} (0..99, step size 1).

3. In the *Initial cell selection* procedure, the UE shall select one radio access technology and search for a suitable cell. If no suitable cell is found, the UE shall select another radio access technology and search for a suitable cell, and so on. In the *Stored information cell selection* procedure, the UE may use stored information about the selected PLMN. The information may contain information from several radio access technologies.

References

1. TS 25.304, 5.2.2.1.1
2. TS 25.304, 7.1
3. TS 25.304, 5.2.1

6.2.2.1.3 Test purpose

To verify that

1. The UE meets conformance requirement 1.
2. The UE meets conformance requirement 2
3. The UE meets conformance requirement 3

6.2.2.1.4 Method of test

Initial conditions

The relative RF signal to total interference ratio at the UE (*CPICH_Ec/Io*) between the cells shall be:

T1: Cell 1 < Cell 2 < Cell 3 < Cell 4 < Cell 5 < Cell 6

T2: Cell 1 > Cell 2 > Cell 3 > Cell 4 > Cell 5 > Cell 6

Cell 2 and 5 have S<0, Cell 3 and 6 are barred.

Parameters changed from the default values in table 6.1.3.1.**Parameter**	**Unit**	**Cell 1 (UTRAN)**		**Cell 2 (UTRAN)**		**Cell 3 (UTRAN)**	
		T1	**T2**	**T1**	**T2**	**T1**	**T2**
Channel Number		UARFCN 1		UARFCN 1		UARFCN 2	
$\hat{I}_{or}/I_{oc}$	dBm	-5.71	3.06	-3.71	0.06	0.02	-7.25
CPICH_Ec/Io	dB	-18	-13	-16	-16	-13	-18
CPICH RSCP	dBm	-86	-77	-84	-80	-80	-87
Qqualmin	dB	-20		-10			
Qrxlevmin	dBm	-100		-100		-100	
Squal	dB	2	7	-6	-6	7	2
Srxlev	dBm	14	23	16	20	20	13
CellBarred		0		0		1	

Parameter	**Unit**	**Cell 4 (GSM)**		**Cell 5 (GSM)**		**Cell 6 (GSM)**	
		T1	**T2**	**T1**	**T2**	**T1**	**T2**
Channel Number		ARFCN 1		ARFCN 2		ARFCN 3	
RF Signal Level	dBm	-70	-95	-60	-100	-50	-105
RXLEV_ACCESS_MIN	dBm	-100		-50		-110	
C1	dBm	30	5	-10	-50	60	5
CellBarred		0		0		1	

Test procedure

a) The SS activates the cells 1-6 according to T1 and monitors cell 1, 2 and 3 for random access request from the UE

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) The UE is switched off.

e) The SS monitors cells 4, 5 and 6 for random access requests from the UE.

f) The UE is switched on.

g) The SS waits to see if there is any random access request from the UE.

h) The stored information cell selection list in the UE is deleted and the UE is switched off.

i) Step a-g) is repeated except that the cells are set according to T2 and Cell 1 is set to another PLMN

6.2.2.1.5 Test Requirements

1) In step c), the first response from the UE shall be on Cell 1 within 33 seconds. (Initial cell selection)

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the initial cell selection time. UMTS should not have worse performance than GSM]

2) In step g), there shall be no response from the UE on either Cell 4, 5 or 6 within 33 seconds. (Stored Information cell selection)

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the stored cell selection time. UMTS should not have worse performance than GSM]

3) In step i), the first response from the UE shall be on Cell 4. (Initial cell selection) and no other responses

6.2.2.2 Cell reselection; UTRAN to GSM

6.2.2.2.1 Definition

Test to verify that the UE performs cell reselection correctly when both a GSM and UTRAN network is available and if the serving cell becomes barred or S<0.

6.2.2.2.2 Conformance requirement

1. While camped on a cell of the selected PLMN ("camped normally"), the UE may need to select a different cell ("normal cell reselection" state). The following events trigger a cell reselection:

   1.1 Time for cell re-selection evaluation

   1.2 Cell selection criterion S is not fulfilled

   1.3 Cell has become barred or forbidden

   In case 1.2 and 1.3 the parameters Qhyst and Treselection shall not be considered in the criteria.

2. The UE shall perform a cell reselection if a non-serving cell is evaluated to be better than the serving cell. The best cell is the cell with the highest cell-ranking criterion R and (Squal>0, Srxlev>0). The UE shall reselect the new cell, if the cell reselection criteria are fulfilled during a time interval Treselection.

3. Non-suitable cells (Squal > 0 or Srxlev >0): If the best cell according to cell reselection criteria, does not fulfil all requirements for a suitable cell, that cell, together with all cells on that frequency shall be removed as candidate for cell re-selection.

4. Different types of measurements are used in different radio access technologies and modes for the cell selection and reselection (CPICH Ec/N0 or CPICH SIR in UTRA FDD, P-CCPCH RSCP in UTRA TDD, RXLEV in GSM). Whenever a direct comparison of these measurements is required, mapping functions shall be applied.

Mapping functions are used for mapping a certain range of measurement values Q_{meas_LEV} (CPICH_EC/N0, CPICH_RSCP_LEV, P-CCPCH_RSCP_LEV, RXLEV) to a representing quality value Q_{map} (0..99, step size 1).

References

1. TS 25.304, 5.2.2.4.1
2. TS 25.304, 5.2.2.4.5
3. TS 25.304, 5.2.2.4.4.
4. TS 25.304, 7.1

6.1.2.2.3 Test purpose

1. To verify that the UE meets conformance requirement 1.2 and 1.4
2. To verify that the UE meets conformance requirement 2
3. To verify that the UE meets conformance requirement 3

NOTE: Cell reselection caused by a better cell being found (conformance requirement 2.1) is tested in TS 34.121, 8.2.3.3 Cell re-selection UTRAN to GSM.

6.2.2.2.4 Method of test

Initial conditions

Treselection, Qhyst, Qoffset, TEMP_OFFSET and PENALTY_TIME are not used, so the cell-ranking criterion R equals Q.

The relative RF signal to total interference ratio at the UE (*CPICH_Ec/Io*) between the cells shall be:

Cell 1 (UTRAN) > Cell 2 (GSM) > Cell 3 (GSM)

Parameters changed from the default values in table 6.1.3.1.

Parameter	Unit	Cell 1 (UTRAN)
Channel Number		UARFCN 1
$\hat{I}_{or}/I_{oc}$	dBm	5.87
CPICH_Ec/Io	dB	-11
CPICH RSCP	dBm	-74
Qqualmin	dB	-20
Qrxlevmin	dBm	-100
Squal	dB	9
Srxlev	dBm	26

Parameter	Unit	Cell 2 (GSM)	Cell 3 (GSM)
Channel Number		ARFCN 1	ARFCN 2
RF Signal Level	dBm	-80	-90
RXLEV_ACCESS _MIN	dBm	-100	-100
C1	dBm	20	10

Test procedure

a) The SS activates cells 1, 2, and 3. The SS monitors cells 1, 2 and 3 for random access requests from the UE.

b) The UE is switched on.

c) The SS waits for random access request from the UE

d) The SS sets Cell 1 to be barred

e) The SS waits for random access request from the UE

f) The stored information cell selection list in the UE is deleted and the UE is switched off.

g) Step a-e) is repeated except that in step d), Qqualmin is increased to -5 dB, so S will become negative instead of being barred

h) The stored information cell selection list in the UE is deleted and the UE is switched off.

i) Step a-e) is repeated except that in step d), Cell 1 shall be on another PLMN while maintaining the same RF level.

6.2.2.2.5 Test Requirements

1) In step c), the UE shall respond on Cell 1 within 33 seconds

[Editor's note: The 33 seconds is taken from GSM as there is no requirement in UMTS to the initial cell selection time. UMTS should not have worse performance than GSM]

2) In step e), the UE shall respond on Cell 2 within 12 seconds.

NOTE: 1280 msec. for DRX cycle + 1280 msec. for system info scheduling + 5 sec. actual reselection time + 1280 msec. for reading neighbour BCCH + 25%. Allow 12 sec.

3) The responses in step g) shall first be a response on Cell 1 and then a response on Cell 2.

4) The responses in step i) shall first be a response on Cell 1 and then a response on Cell 2.

6.2.2.3 Cell reselection timings; GSM to UTRAN

6.2.2.3.1 Definition

Test to verify that the UE meets the cell reselection timing requirements when both a GSM and UTRAN network is available.

6.2.2.3.2 Conformance requirement

1. If the broadcast neighbour cell list includes UTRAN cells or UTRAN frequencies (with or without scrambling code group information), the UE shall, at least every 5 seconds update the value RLA_C for the serving cell and each of the at least 6 strongest non serving GSM cells.

   1.1 The UE shall then reselect a suitable UTRAN cell if its measured RSCP value exceeds the value of RLA_C for the serving cell and all of the suitable non-serving GSM cells by the value XXX_Qoffset for a period of 5 seconds and, for FDD, the UTRAN cells measured Ec/No value is equal or greater than the value FDD_Qmin.

   - Ec/No and RSCP are the measured quantities

   - FDD_Qmin and XXX_Qoffset are broadcast on BCCH of the serving cell. XXX indicates other radio access technology/mode.

   1.2 In case of a cell reselection occurring within the previous 15 seconds, XXX_Qoffset is increased by 5 dB.

1.3 Cell reselection to UTRAN shall not occur within 5 seconds after the UE has reselected a GSM from an UTRAN cell if a suitable GSM cell can be found.

1.4 If more than one UTRAN cell fulfils the above criteria, the UE shall select the cell with the greatest Qmeas value.

2. The UE shall be able to identify and select a new best UTRAN cell, which is part of the neighbour cell list, within 30 seconds after it has been activated under the condition that there is only one UTRAN frequency in the neighbour cell list. The allowed time is increased by 30 seconds for each additional UTRAN frequency in the neighbour cell list. However, multiple UTRAN cells on the same frequency in the neighbour cell list does not increase the allowed time.

NOTE: Definitions of measurements are in 3G TS 25.215 and 3G TS 25.101, 3.2 and GSM 05.08, 6.1.

References

1. GSM TS 05.08, 6.6.4
2. GSM TS 05.08, 6.6

6.1.2.3.3 Test purpose

1. To verify that

1.1 The UE meets conformance requirement 1.1 and additionally, that no reselection is performed if the period is less than 5 sec.

1.2 The UE meets conformance requirement 1.2

1.3 The UE meets conformance requirement 1.3

6.2.2.3.4 Method of test

Initial conditions

Parameter	Unit	Cell 1 (GSM)
Absolute RF Channel Number		ARFCN 1
RF Signal Level	dBm	-75
RXLEV_ACCESS_MIN	dBm	-100
MS_TXPWR_MAX_CCH	dBm	Max. output power of UE~~MS~~
FDD_Qmin	dBm	-20
XXX_Qoffset	dBm	5

Parameters changed from the default values in table 6.1.3.1.

Parameter	Unit	Cell 2 (UTRAN)
UTRA RF Channel Number		UARFCN 1
$\hat{I}_{or}/I_{oc}$	dB	-4.74
CPICH_Ec/Io	dB	-16
CPICH_RSCP	dBm	-85
Qqualmin	dB	-20
Qrxlevmin	dBm	-100
Squal	dB	4
Srxlevmin	dBm	15

Test procedure

NOTE: Step a-c): Test purpose 1.3. Step d-g): test purpose 1.1. Step h-k): test purpose 1.2

a) The SS activates the channels. The UE is not paged on any of the cells.

b) The UE is switched on.

c) After 50 seconds, the SS starts paging continuously on cells 1 and 2 for 20 seconds. The SS monitors cells 1 and 2 for random access requests from the UE.

d) The SS stops paging on cells 1 and 2 and waits for 20 seconds. (The UE should revert to Cell 1 due to cell reselection).

e) The SS starts paging continuously on Cell 2.

f) The SS decreases the transmit level of Cell 1 to –95dBm for a period of 4 s (RSCP will then exceed RXLEV by more than XXX_Qoffset) and then changes the level back to the original value.

g) The UE waits to see if there is any random access requests from the UE on Cell 2

h) The SS decreases the transmit level of Cell 1 to –95dBm and waits for the UE to access on Cell 2. The SS records the time t from the decrease in the level of Cell 1 to the first response from the UE.

i) The SS stops paging on Cell 2 and changes the transmit level of Cell 1 back to the original value.

j) The SS waits 20 seconds. (The UE should revert to Cell 1 due to cell reselection).

k) The SS decreases the transmit level of Cell 1 to –95dBm. After t+2 seconds, the SS starts paging continuously on Cell 1, changes the level of Cell 1 back to the original level and waits to see if there is any random access request on Cell 1.

6.2.2.3.5 Test Requirements

1) In step c), the UE shall transmit 2 random access requests on Cell 1 followed by 2 random access requests on Cell 2. Subsequent random access requests on Cell 1 shall not occur within 4,5 sec of the second random access request on Cell 1.

2) In step g), there shall be no access on Cell 2 within 34 seconds of decreasing the level of Cell 1.

3) In step h), the UE shall respond on Cell 2.

4) In step k), there shall be no response on Cell 1 within 11 seconds after the level of Cell 1 is changed back to the original level.

NOTE: The 11 seconds is derived from (t+15) seconds minimum cell reselection timer minus (t+2) seconds from the start of step k) up to the increase of the level of Cell 1. A further 2 seconds are subtracted to cover for any uncertainty introduced by the random access process occurring after step g).

~~6.2.3 Location registration~~

~~[FFS]~~

3GPP TSG T1 Meeting #9 ***Document T1-000289***

Redondo Beach, Ca, USA, 16-17 November 2000

e.g. for 3GPP use the format TP-99xxx

or for SMG, use the format P-99-xxx

3GPP TSG-T1/SIG Meeting #14 ***Tdoc T1S-000240***

Redondo Beach, USA, 13th – 15th November 2000

CR-Form-v3

CHANGE REQUEST

⌘ **34.123-1** **CR** **042** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Editorial modification for CC test cases (Clause 10)
Source:	⌘	MITSUBISHI ELECTRIC CORPORATION
Work item code:	⌘	***Date:*** ⌘
Category:	⌘	**D** ***Release:*** ⌘ R99

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The applicability statements still remain in the all “definition” sub-clauses in clause 10. They should be removed. Editorial corrections should be applied.
Summary of change:	⌘	The applicability statements are removed from all CC test cases in clause 10. The following editorial corrections are applied to clause 10 • Mobile terminated establishment of RRC -> Mobile terminated establishment of Radio Resource Connection • SS initiated Establishment of RRC Connection -> Mobile terminated establishment of Radio Resource Connection
Consequences if not approved:	⌘	

Clauses affected:	⌘	10
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

10 Circuit Switched Call Control (CC)

10.1 Circuit switched Call Control (CC) state machine verification

10.1.1 General on CC state machine verification

The principle of checking the call control functions consists in the validation of each call control identified state.

State U0 as an initial state is not verified in the tests of 10.1.2 (establishment of an outgoing call).

State U0.1 is never verified.

The steps to be followed within each performed test are:

- bring the UE into the required state;
- trigger the tested event;
- check the UE response and new state.

In clauses 10.1.2 and 10.1.3 different tables are defined to bring the UE into the required initial state. The exact table to be chosen is specified individually in clause "Initial conditions" of "Method of test" for each test case.

For each test, unless otherwise specified, a circuit switched basic service among those supported by the UE but excluding the emergency call teleservice shall be chosen arbitrarily, and the test shall be performed according to that basic service. If the only circuit switched basic service supported by the mobile is emergency call, then the incoming call tests shall not be performed and the other call control tests shall be performed with the EMERGENCY SETUP message replacing the SETUP message.

The initial states are to be checked through STATUS ENQUIRY messages sent by the SS, when feasible. This is not explicitly stated in the tables of expected sequences of signalling messages. The checking of final states are explicitly included into the expected sequences of signalling messages.

The following postamble may be used by the SS to bring UE back to idle mode in those test cases, in which it is not already included into expected sequence of signalling messages:

Table 10.1.1/1: A postamble to bring the UE back to idle mode.

Step	Direction		Message	Comments
	UE	SS		
N n+1 n+2	<-- --> UE		RRC CONNECTION RELEASE RRC CONNECTION RELEASE COMPLETE	 the UE shall release the main signalling link

The postamble has not been included into the all of the tests in order to leave an option to concatenate the procedures in the future by using a final state of a test case as an initial state to another one.

For the special case of U0, the state is checked by sending STATUS ENQUIRY message with all possible values of transaction identifier (seven values) as U0 is the only state in which for every TI the UE will answer with release complete with cause #81. If U0 is to be verified when no RRC connection exists, first a mobile terminating radio connection must be established.

The UE responses are either call management messages received by the SS or lower layers functions activated within the UE or MMI actions (e.g. the buzzing of an alerting tone).

A time-out within the UE is triggered by the SS when it does not answer back an UE expected response.

The test sequences may be split in 3 main groups:

- establishment and release of an outgoing call;
- establishment and release of an incoming call;
- in-call functions.

Some test cases use Basic Generic Procedures, "Mobile terminated establishment of ~~rrc~~Radio Resource ~~c~~Connection" and "Radio Bearer Setup Procedure" defined in TS34.108 clause 7.

General tolerance value on protocol timers defined in TS34.108 is used in some test cases if no specific tolerance on timer is defined in a test case.

Remark on verification of transient states:

Some call control states of the user equipment may be transient, depending on implementation, configuration of the UE and previous messages.

If a test starts in a transient state, then the test is executed without verification of the starting state.

10.1.2 Establishment of an outgoing call

Initial conditions

As a minimum requirement the UE is updated and has been given a TMSI, a ciphering key and cipher key sequence number, and the layer 2, RRC and MM functionalities have been verified.

There are as many CM initial conditions as states to be checked.

The tables below describe message exchanges which bring the UE in the requested initial states.

A state may be taken as initial only when all the states which lead to this initial states have been validated. The order followed in the test procedure will be U0, U0.1, U1, U3, U4, U10, U12, U19, U11 as seen in the table underneath.

The UE is brought again in the initial state starting with U0 at each new test performed.

Table 10.1.2/1: Establishment of an outgoing call, procedure 1 (late assignment)

Step	Direction		Message	Comments
	UE	SS		
1		->	RRC CONNECTION REQUEST	Initiate outgoing call
2		<-	RRC CONNECTION SETUP	
3		->	RRC CONNECTION SETUP COMPLETE	
4		->	CM SERVICE REQUEST	U0.1
5		<-	AUTHENTICATION REQUEST	
6		->	AUTHENTICATION RESPONSE	
7		<-	SECURITY MODE COMMAND	
8		->	SECURITY MODE COMPLETE	
9		->	SETUP	U1
10		<-	CALL PROCEEDING	U3
11		<-	ALERTING	U4
12			Radio Bearer Setup Procedure	DTCH, See TS34.108
13		<-	CONNECT	
14		->	CONNECT ACKNOWLEDGE	U10
A15		<-	DISCONNECT	U12 (note 1)
B15		<-	DISCONNECT	U12 (note 2)
B16		->	RELEASE	U19
C15				MMI action, terminate call
C16		->	DISCONNECT	U11

NOTE 1: The Progress Indicator IE with progress description #8 "in band information or appropriate pattern now available" is included.

NOTE 2: The Progress Indication IE is not included.

Table 10.1.2/2: Void

Table 10.1.2/3: Establishment of an outgoing call, procedure 3

Step	Direction		Message	Comments
	UE	SS		
1		->	RRC CONNECTION REQUEST	Initiate outgoing call
2		<-	RRC CONNECTION SETUP	
3		->	RRC CONNECTION SETUP COMPLETE	
4		->	CM SERVICE REQUEST	U0.1
5		<-	SECURITY MODE COMMAND	
6		->	SECURITY MODE COMPLETE	
7		->	SETUP	U1
8		<-	AUTHENTICATION REQUEST	
9		->	AUTHENTICATION RESPONSE	
10		<-	CALL PROCEEDING	U3
11			Radio Bearer Setup Procedure	DTCH, See TS34.108
12		<-	ALERTING	U4
13		->	CONNECT	
14		<-	CONNECT ACKNOWLEDGE	U10
A15		<-	DISCONNECT	U12 (note 6)
B15		<-	DISCONNECT	U12 (note 7)
B16		->	RELEASE	U19
C15				MMI action, terminate call
C16		->	DISCONNECT	U11

NOTE 6: The Progress Indicator IE with progress description #8 "in band information or appropriate pattern now available" is included.

NOTE 7: The Progress indicator IE is not included.

Table 10.1.2/4: Establishment of an outgoing call, procedure 4

Step	Direction		Message	Comments
	UE	SS		
1		->	RRC CONNECTION REQUEST	Initiate outgoing call
2		<-	RRC CONNECTION SETUP	
3		->	RRC CONNECTION SETUP COMPLETE	
4		->	CM SERVICE REQUEST	U0.1
5		<-	IDENTITY REQUEST	
6		->	IDENTITY RESPONSE	
7		<-	SECURITY MODE COMMAND	
8		->	SECURITY MODE COMPLETE	
9		->	SETUP	U1
10		<-	Radio Bearer Setup Procedure	DTCH (note 8), See TS34.108
11		<-	CALL PROCEEDING	U3
12		<-	ALERTING	U4
13		<-	CONNECT	
14		->	CONNECT ACKNOWLEDGE	U10
A15		<-	DISCONNECT	U12 (note 9)
B15		<-	DISCONNECT	U12 (note 10)
B16		->	RELEASE	U19
C15				MMI action, terminate call
C16		->	DISCONNECT	U11

NOTE 8: Assigned channel is appropriate for the chosen bearer capability (see 10.1).

NOTE 9: The Progress Indicator IE with progress description #8 "in band information or appropriate pattern now available" is included.

NOTE 10:The Progress Indicator IE is not included.

10.1.2.1 Outgoing call / U0 null state

10.1.2.1.1 Outgoing call / U0 null state / MM connection requested

10.1.2.1.1.1 Definition

The call control entity of the User Equipment requests the MM-sublayer to establish a mobile originating MM-connection. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.1.1.2 Conformance requirement

1) Upon initiation of an outgoing basic call by user the UE shall initiate establishment of an MM connection, using as first MM message a CM SERVICE REQUEST message with CM service type "Mobile originating call establishment or packet mode connection establishment".

References

TS 24.008 clause 5.2.1.1, TS24.008 clause 4.5.1.1, TS 25.331 clause 8.1.3.

10.1.2.1.1.3 Test purpose

To verify that upon initiation of an outgoing basic call by user the UE initiates establishment of an MM connection, using as first MM message a CM SERVICE REQUEST message with CM service type "Mobile originating call establishment or packet mode connection establishment".

10.1.2.1.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. When the SS receives CM SERVICE REQUEST, the contents of it shall be checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	->		RRC CONNECTION REQUEST	initiate outgoing call
2	<-		RRC CONNECTION SETUP	
3	->		RRC CONNECTION SETUP COMPLETE	
4	->		CM SERVICE REQUEST	verify the type of call which is asked for "basic" or "emergency by the UE
5	<-		RRC CONNECTION RELEASE	
6	->		RRC CONNECTION RELEASE COMPLETE	
7	UE			the UE shall release the main signalling link

Specific message contents:

None.

10.1.2.1.1.5 Test requirements

After step 3 the UE shall initiate establishment of an MM connection, using as first MM message a CM SERVICE REQUEST message with CM service type "Mobile originating call establishment or packet mode connection establishment".

10.1.2.2 Outgoing call / U0.1 MM connection pending

10.1.2.2.1 Outgoing call / U0.1 MM connection pending / CM service rejected

10.1.2.2.1.1 Definition~~Definition~~

A request for MM connection is rejected by the SS. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.2.1.2 Conformance requirement

Upon receiving indication of an MM-connection establishment being rejected, CC entity should inform upper layer of this rejection.

References

TS 24.008, clause 4.5.1.1 , TS 24.007, clause 6.2.2.

10.1.2.2.1.3 Test purpose

To verify that a CC entity of the UE in CC-state U0.1, "MM-connection pending", upon the UE receiving a CM SERVICE REJECT message, returns to CC state U0, "Null".

10.1.2.2.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U0.1 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. When the SS receives CM SERVICE REQUEST, the contents of it shall be checked. The SS rejects it by CM SERVICE REJECT. Then the SS will check the state of the UE by using STATUS ENQUIRY with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	CM SERVICE REJECT	
2		<-	STATUS ENQUIRY	
3		->	RELEASE COMPLETE	cause shall be 81# (invalid TI value)
4	SS			repeat steps 2-3 to cover all the transaction identifiers from 000 ...110
5		<-	RRC CONNECTION RELEASE	
6		->	RRC CONNECTION RELEASE COMPLETE	
7	UE			the UE shall release the main signalling link

Specific message contents:

None.

10.1.2.2.1.5 Test requirements

After step 2 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.2.2 Outgoing call / U0.1 MM connection pending / CM service accepted

10.1.2.2.2.1 Definition

A CM request is accepted for the MM-connection by the SS. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.2.2.2 Conformance requirement

A CC entity of the UE in CC-state U0.1, "MM-connection pending", upon the UE receiving a CM SERVICE ACCEPT message, shall send a SETUP message specifying the Called party BCD number that was entered into the UE and then enter CC state U1, "Call initiated".

References

TS 24.008, clause 4.5.1.1, TS24.008, clause 5.2.1.1.

10.1.2.2.2.3 Test purpose

To verify that a CC entity of the UE in CC-state U0.1, "MM-connection pending", upon the UE receiving a CM SERVICE ACCEPT message, sends a SETUP message specifying the Called party BCD number that was entered into the UE and then enters CC state U1, "Call initiated".

10.1.2.2.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U0.1 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. When the UE is requesting a MM-connection, the SS will indicate acceptance by sending a CM SERVICE ACCEPT message. The UE shall respond with SETUP. Then the SS will check the state of the call control entity by STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	CM SERVICE ACCEPT	
2		->	SETUP	with called party BCD number.
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause shall be 30# (response to enq.) and state U1 call initiated.

Specific message contents:

None.

10.1.2.2.2.5 Test requirements

After step 1 a CC entity of the UE in CC-state U0.1, "MM-connection pending", shall send a SETUP message specifying the Called party BCD number that was entered into the UE and then enter CC state U1, "Call initiated".

10.1.2.2.3 Outgoing call / U0.1 MM connection pending / lower layer failure

10.1.2.2.3.1 Definition

The call control entity of the UE being in the state, U0.1, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.2.3.2 Conformance requirement

1) Upon a lower layer failure the UE releases the MM connection in progress and returns to idle mode. In that state no call exists, and the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

References

TS 24.008, clause 4.5.1.2, TS 24.008, clause 5.2.1.1., TS 24.008 clause 5.5.3.2. and TS 24.008 clause 8.3.

10.1.2.2.3.3 Test purpose

To verify that after the UE with a CC entity in state U0.1, "MM-connection pending", has detected a lower layer failure and has returned to idle mode, the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

10.1.2.2.3.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U0.1 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. When the UE has sent a CM SERVICE REQUEST message, the SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure.
2		SS		SS waits 20 s for the UE to return to listening to paging.
3			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause shall be 81# (invalid TI value).
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000 ...110.
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.2.3.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.3 Outgoing call / U1 call initiated

10.1.2.3.1 Outgoing call / U1 call initiated / receiving CALL PROCEEDING

10.1.2.3.1.1 Definition

The call control entity of the UE being in the state, U1, a CALL PROCEEDING message is sent by the SS. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.3.1.2 Conformance requirement

1) A CC entity of the UE in CC-state U1, "Call initiated", upon receipt of a CALL PROCEEDING message, shall enter CC state U3, "Mobile originating call proceeding".

References

TS 24.008, clauses 5.2.1.1, 5.2.1.2 and 5.2.1.3.

10.1.2.3.1.3 Test purpose

To verify that a CC entity of the UE in CC-state U1, "Call initiated", upon receipt of a CALL PROCEEDING message, enters CC state U3, "Mobile originating call proceeding".

10.1.2.3.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U1 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U1. The SS sends a CALL PROCEEDING message to the UE. The SS checks by using the status enquiry procedure that the CC entity has entered the state U3.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		CALL PROCEEDING	tone generation not mandatory
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U3

Specific message contents:

None.

10.1.2.3.1.5 Test requirements

After step 1 a CC entity of the UE in CC-state U1, "Call initiated", shall enter CC state U3, "Mobile originating call proceeding".

10.1.2.3.2 Outgoing call / U1 call initiated / rejecting with RELEASE COMPLETE

10.1.2.3.2.1 Definition

The call control entity of the UE being in the state, U1, the call is rejected by a RELEASE COMPLETE message sent by the SS. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.3.2.2 Conformance requirement

1) A CC entity of the UE in CC-state U1, "Call initiated", upon receipt of a RELEASE COMPLETE message with valid cause value, shall enter CC state U0, "Null".

2) On returning to idle mode, the CC entities relating to the seven mobile originating transaction identifiers shall be in state U0, "Null".

3) On releasing the MM-connection, the UE shall wait for MM layer release initiated by the network.

References

Conformance requirement 1: TS 24.008, clause 5.4.2, TS 24.008, clause 5.4.4.

Conformance requirement 2: TS 24.008, clause 5.5.3.2.

Conformance requirement 3: TS 24.008, clause 5.4.4.1.3, TS 24.008, clause 4.5.3, TS 25.331, clause 8.1.4.

10.1.2.3.2.3 Test purpose

1) To verify that a CC entity of the UE in CC-state U1, "Call initiated", upon receipt of a RELEASE COMPLETE message with valid cause value, enters CC state U0, "Null".

2) To verify that in returning to idle mode, the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

3) To verify that in releasing the MM-connection, the UE shall wait for MM layer release initiated by SS.

10.1.2.3.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U1 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U1. The SS sends a RELEASE COMPLETE message to the UE. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE COMPLETE	See specific message content below.
2		<-	STATUS ENQUIRY	
3		->	RELEASE COMPLETE	cause 81# (invalid TI value)
4	SS			repeat steps 2-3 to cover all the transaction identifiers from 000...110
5		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
6		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

RELEASE COMPLETE

1) With a valid cause value among:

related to numbering,

#1 unallocated number

#3 no route to destination

#22 number changed

#28 invalid number format

related to bearer capabilities,

#8 operator determined barring

#57 bearer capability not authorized

#58 bearer capability not presently available

#63 service or option not available

#65 bearer service not implemented

#34 no circuit/channel available (call queuing).

10.1.2.3.2.5 Test requirements

After step 2 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.3.3 Outgoing call / U1 call initiated / T303 expiry

10.1.2.3.3.1 Definition

The call control entity of the UE being in the state, U1, if no response is then received from the SS, timer T303 expires at the UE side. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.3.3.2 Conformance requirement

1) A CC entity of the UE in CC-state U1, "Call initiated", upon expiry of T303 shall send a DISCONNECT message to its peer entity and enter state U11, "Disconnect request".

References

TS 24.008, clause 5.2.1.1, TS 24.008, clause 5.4.

10.1.2.3.3.3 Test purpose

1) To verify that a CC entity of the UE in CC-state U1, "Call initiated", upon expiry of T303 sends a DISCONNECT message to its peer entity and enters state U11, "Disconnect request".

10.1.2.3.3.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U1 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U1. When T303 expires at the UE, the UE shall send DISCONNECT. The SS checks by using the status enquiry procedure that the CC entity has entered the state U11, disconnect request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS waits for T303 expiry.
2	->		DISCONNECT	Shall be transmitted between 24 s and 36 s after the CM SERVICE REQUEST.
3		<-	STATUS ENQUIRY	
4	->		STATUS	cause 30#, status U11

Specific message contents:

None.

10.1.2.3.3.5 Test requirements

Upon expiry of timer T303, a CC entity of the UE in CC-state U1, "Call initiated", shall send a DISCONNECT message and enter state U11, "Disconnect request".

10.1.2.3.4 Outgoing call / U1 call initiated / lower layer failure

10.1.2.3.4.1 Definition

The call control entity of the UE being in the state, U1, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.3.4.2 Conformance requirement

Upon a lower layer failure MM informs the relevant CM entities that the MM connection has been interrupted. As call re-establishment is not allowed, the CC entity must perform a local release. The UE returns to idle mode. In that state no call exists, and the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

References

TS 24.008, clause 4.5.2.3, TS 24.008, clause 5.2.1.1, TS 24.008 clause 5.5.3.2.

10.1.2.3.4.3 Test purpose

To verify that after the UE with a CC entity in state U1 "Call initiated", has detected a lower layer failure and has returned to idle mode, the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

10.1.2.3.4.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U1 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The UE is brought to the state U1. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure.
2		SS		SS waits 20 s for the UE to return to listening to paging.
3			Mobile terminated establishment of ~~rrc~~Radio Resource ~~c~~Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value).
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110.
7	<-		RRC CONNECTION RELEASE	
8	->		RRC CONNECTION RELEASE COMPLETE	
9		UE		the UE shall release the main signalling link.

Specific message contents:

None.

10.1.2.3.4.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.3.5 Outgoing call / U1 call initiated / receiving ALERTING

10.1.2.3.5.1 Definition

The call control entity of the UE being in the state, U1, an ALERTING message is sent to the UE as a indication that a call is being alerted at a called end. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.3.5.2 Conformance requirement

1) A CC entity of the UE in CC-state U1, "Call initiated", upon receipt of an ALERTING message, shall enter CC state U4, "Call delivered".

References

TS 24.008, clause 5.2.1.1.

10.1.2.3.5.3 Test purpose

To verify that a CC entity of the UE in CC-state U1, "Call initiated", upon receipt of an ALERTING message, enters CC state U4, "Call delivered".

10.1.2.3.5.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U1 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U1. The SS sends an ALERTING message to the UE. The SS checks by using the status enquiry procedure that the CC entity has entered the state U4, call delivered.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		ALERTING	
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U4

Specific message contents:

None.

10.1.2.3.5.5 Test requirements

After step 1 a CC entity of the UE in CC-state U1, "Call initiated", shall enter CC state U4, "Call delivered".

10.1.2.3.6 Outgoing call / U1 call initiated / entering state U10

10.1.2.3.6.1 Definition

The call control entity of the UE being in the state, U1, a CONNECT message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.3.6.2 Conformance requirement

1) A CC entity of the UE in CC-state U1, "Call initiated", upon receipt of a CONNECT message, shall send a CONNECT ACKNOWLEDGE message to its peer entity and enter CC state U10, "Active".

References

TS 24.008, clause 5.2.1.1, TS 24.008, clause 5.2.1.6.

10.1.2.3.6.3 Test purpose

To verify that a CC entity of the UE in CC-state U1, "Call initiated", upon receipt of a CONNECT message, sends a CONNECT ACKNOWLEDGE message to its peer entity and enters CC state U10, "Active".

10.1.2.3.6.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U1 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U1. The SS sends a CONNECT message to the UE. The UE shall respond by sending a CONNECT ACKNOWLEDGE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U10, active.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	CONNECT	
2		->	CONNECT ACKNOWLEDGE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U10

Specific message contents:

None.

10.1.2.3.6.5 Test requirements

After step 1 a CC entity of the UE in CC-state U1, "Call initiated", shall send a CONNECT ACKNOWLEDGE message and shall enter CC state U10, "Active".

10.1.2.3.7 Outgoing call / U1 call initiated / unknown message received

10.1.2.3.7.1 Definition

The call control entity of the UE being in the state, U1, an unknown message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.3.7.2 Conformance requirement

1) A CC entity of the UE in CC-state U1, "Call initiated", upon receipt of a message with message type not defined for the protocol discriminator from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.4.

10.1.2.3.7.3 Test purpose

To verify that a CC entity of the UE in CC-state U1, "Call initiated", upon receipt of a message with message type not defined for the protocol discriminator unknown message from its peer entity returns a STATUS message.

10.1.2.3.7.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U1 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U1. The SS sends a message with message type not defined for the protocol discriminator to the UE. The UE shall respond with a STATUS message, and finally the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		unknown message	message type not defined for PD
2	->		STATUS	cause 97#, state U1
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U1

Specific message contents:

None.

10.1.2.3.7.5 Test requirements

After step 1 and step 3 a CC entity of the UE in CC-state U1, "Call initiated", shall return a STATUS message.

10.1.2.4 Outgoing call / U3 UE originating call proceeding

10.1.2.4.1 Outgoing call / U3 UE originating call proceeding / ALERTING received

10.1.2.4.1.1 Definition

The call control entity of the UE being in the state, U3, an ALERTING message is sent to the UE as a indication that a call is being alerted at a called end. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.1.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a ALERTING message shall enter CC-state U4, "Call Delivered".

References

TS 24.008 clause 5.2.1.5.

10.1.2.4.1.3 Test purpose

To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a ALERTING message enters CC-state U4, "Call Delivered".

10.1.2.4.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The SS sends an ALERTING message to the UE. The SS checks by using the status enquiry procedure that the CC entity has entered the state U4, call delivered.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		ALERTING	
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U4

Specific message contents:

None.

10.1.2.4.1.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall enter CC-state U4, "Call Delivered".

10.1.2.4.2 Outgoing call / U3 UE originating call proceeding / CONNECT received

10.1.2.4.2.1 Definition

The call control entity of the UE being in the state, U3, a CONNECT message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.2.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a CONNECT message shall return a "CONNECT ACKNOWLEDGE" message to its peer entity and enter the CC state U10, "Active".

2) The UE shall then stop any locally generated indication.

References

Conformance requirement 1: TS 24.008 clause 5.2.1.6.

Conformance requirement 2: TS 24.008 clause 5.2.1.6.

10.1.2.4.2.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a CONNECT message returns a "CONNECT ACKNOWLEDGE" message to its peer entity and enters the CC state U10, "Active".

2) To verify that the UE stops locally generated indication, if any.

10.1.2.4.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The SS sends a RADIO BEARER SETUP for traffic channel to the UE. The UE shall respond with a RADIO BEARER SETUP COMPLETE message. The SS sends a CONNECT message to the UE. The UE shall respond by sending a CONNECT ACKNOWLEDGE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U10, active.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Radio Bearer Setup Procedure	(DTCH), SeeTS34.108
2	<-		CONNECT	the UE shall stop tone generation, if any
3	->		CONNECT ACKNOWLEDGE	
4	<-		STATUS ENQUIRY	
5	->		STATUS	cause 30#, state U10

Specific message contents:

None.

10.1.2.4.2.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall return a "CONNECT ACKNOWLEDGE" message and enter the CC state U10, "Active".

The UE shall stop locally generated indication.

10.1.2.4.3 Outgoing call / U3 UE originating call proceeding / PROGRESS received without in band information

10.1.2.4.3.1 Definition

The call control entity of the UE being in the state, U3, a PROGRESS message is received by the UE. The PROGRESS message does not contain indication of in-band information availability. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.3.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a PROGRESS message with valid cause values shall stay in CC-state U3.

2) After receipt of the PROGRESS message timer T310 shall be stopped.

References

Conformance requirement 1: TS 24.008 clause 5.2.1.4.

Conformance requirement 2: TS 24.008 clause 11.3.

10.1.2.4.3.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a PROGRESS message with valid cause values stays in CC-state U3.

2) To verify that after receipt of the PROGRESS message timer T310 is stopped.

10.1.2.4.3.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The SS sends a PROGRESS message not containing indication of in-band information availability to the UE. The SS checks that the UE has stopped T310, i.e. at T310 time-out no DISCONNECT message is sent by the UE. Then the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		PROGRESS	(note)
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U3
4		SS		SS waits at least 45 seconds and checks no DISCONNECT is sent by the UE
5	<-		STATUS ENQUIRY	
6	->		STATUS	cause 30#, state U3

NOTE: Tested with a valid cause value among:

#4 call has returned to PLMN/ISDN

#32 call is end-to-end PLMN/ISDN or

any value in the set #(21-127)

Specific message contents:

None.

10.1.2.4.3.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall stay in CC-state U3.

After step 3 SS waits at least 45 seconds and checks no DISCONNECT is sent by the UE

10.1.2.4.4 Outgoing call / U3 UE originating call proceeding / PROGRESS with in band information

10.1.2.4.4.1 Definition

The call control entity of the UE being in the state, U3, a PROGRESS message indicating availability of in band information is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.4.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a PROGRESS message indicating in-band announcement shall through-connect the traffic channel for speech, if DTCH is in a speech mode. If DTCH is not in speech mode, the UE shall not through-connect the DTCH.

2) After receipt of the PROGRESS message, T310 shall be stopped.

References

TS 25.331 clause 8.2.1., TS 24.008 clause 5.1.3, TS 24.008 clause 5.2.1.4., TS 24.008 clause 5.2.1.9, TS 24.008 clause 5.5.1., TS 24.008 clause 11.3.

10.1.2.4.4.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a PROGRESS message indicating in-band announcement through-connects the traffic channel for speech, if DTCH is in speech mode. If DTCH is not in a speech mode, the UE does not through-connect the DTCH.

2) To verify that after receipt of the PROGRESS message, T310 is stopped.

10.1.2.4.4.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The SS sends a RADIO BEARER SETUP for traffic channel to the UE. The UE shall respond with a RADIO BEARER SETUP COMPLETE message. The SS sends a PROGRESS message containing indication of in-band information availability to the UE. The SS checks that if channel mode is speech, the DTCH shall be through connected. If channel mode is not speech, the DTCH shall not be through connected. Also the SS checks that the UE has stopped T310, i.e. at T310 time-out no DISCONNECT message is sent by the UE. Then the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Radio Bearer Setup Procedure	(DTCH), See TS34.108
2	<-		PROGRESS	(note) the UE shall stop all the CC timers , if channel mode is speech, the DTCH shall be through connected. If channel mode is not speech, the DTCH shall not be through connected.
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U3
5		SS		SS waits at least 45 seconds and checks no DISCONNECT is sent by the UE.
6	<-		STATUS ENQUIRY	
7	->		STATUS	cause 30#, state U3
8		SS		If the channel mode is speech the SS will check that the user connection for speech is attached (both downlink and uplink).

Specific message contents:

NOTE: Tested with a valid cause value among:

#1 call is not end to end PLMN/ISDN

#2 destination address is non PLMN/ISDN

#3 originating address is non PLMN/ISDN

#8 in band information or appropriate pattern now available or any value in the set #(6-20).

10.1.2.4.4.5 Test requirements

After step 2 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall through-connect the traffic channel for speech, if DTCH is in a speech mode. If DTCH is not in speech mode, the UE shall not through-connect the DTCH.

After step 2 the SS waits at least 45 seconds and checks no DISCONNECT is sent by the UE

After step 5 the SS checks that the user connection for speech is attached (both downlink and uplink), if the channel mode is speech.

10.1.2.4.5 Outgoing call / U3 UE originating call proceeding / DISCONNECT with in band tones

10.1.2.4.5.1 Definition

The call control entity of the UE being in the state, U3, a DISCONNECT message indicating availability of in band information is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.5.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a DISCONNECT with progress indicator #8, shall through-connect the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE shall send a RELEASE message.

References

TS 24.008 clause 5.2.1.4., TS 24.008 clause 5.4.4.

10.1.2.4.5.3 Test purpose

To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a DISCONNECT with progress indicator #8 through-connects the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE sends a RELEASE message.

10.1.2.4.5.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to

initiate a call. The CC entity of the UE is brought to the state U3. The SS sends a RADIO BEARER SETUP for traffic channel to the UE. The UE shall respond with a RADIO BEARER SETUP COMPLETE message. The SS sends a DISCONNECT message containing indication of in-band information availability to the UE. The SS checks that if channel mode is speech, the DTCH shall be through connected and the UE enters state U12, disconnect indication. If channel mode is not speech, the DTCH shall not be through connected and the UE shall enter state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Radio Bearer Setup Procedure	(DTCH), See TS34.108
2	<-		DISCONNECT	(note)
B3	SS			DTCH in speech mode: the SS will check that the audio path for in band tones is attached.
B4	<-		STATUS ENQUIRY	
B5	->		STATUS	cause 30#, state U12
C3	->		RELEASE	DTCH is not in speech mode:
C4	<-		STATUS ENQUIRY	
C5	->		STATUS	cause 30#, state U19

Specific message contents:

NOTE: the cause value:

#8 in band information or appropriate pattern now available.

10.1.2.4.5.5 Test requirements

After step 2 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall through-connect the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE shall send a RELEASE message.

10.1.2.4.6 Outgoing call / U3 UE originating call proceeding / DISCONNECT without in band tones

10.1.2.4.6.1 Definition

The call control entity of the UE being in the state, U3, a DISCONNECT message is received by the UE. The DISCONNECT message does not contain indication of in-band information availability. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.6.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a DISCONNECT without progress indicator shall return a RELEASE message and enter the CC-state U19, "Release Request"

References

TS 24.008 clause 5.4.4.

10.1.2.4.6.3 Test purpose

To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a DISCONNECT without progress indicator returns a RELEASE message and enters the CC-state U19, "Release Request".

10.1.2.4.6.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The SS sends a DISCONNECT message not containing indication of in-band information availability to the UE. The UE shall respond with a RELEASE message. The SS checks by using the status enquiry procedure that the CC entity of the UE has entered the state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	DISCONNECT	
2		->	RELEASE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U19

Specific message contents:

None.

10.1.2.4.6.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall send a RELEASE message and enter the CC-state U19, "Release Request".

10.1.2.4.7 Outgoing call / U3 UE originating call proceeding / RELEASE received

10.1.2.4.7.1 Definition

The call control entity of the UE being in the state, U3, a RELEASE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.7.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a RELEASE will return a RELEASE COMPLETE and enter the CC-state U0, "Null".

2) The UE on returning to the idle mode shall release the MM-connection and the CC-entities relating to the seven mobile originating transaction identifiers shall be in CC-state U0, "Null".

3) On releasing the MM-connection, the UE shall wait for MM layer release initiated by the network.

References

Conformance requirement 1: TS 24.008 clause 5.4.2., TS 24.008 clause 5.4.4.

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2.

Conformance requirement 3: TS 24.008, clause 5.4.4.1.3, TS 24.008, clause 4.5.3, TS 25.331, clause 8.1.4.

10.1.2.4.7.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon receipt of a RELEASE will return a RELEASE COMPLETE and enter the CC-state U0, "Null".

2) To verify that the UE on returning to the idle mode releases the MM-connection and that the CC-entities relating to the seven mobile originating transaction identifiers are in CC-state U0, "Null".

3) To verify that in releasing the MM-connection, the UE shall wait for MM layer release initiated by SS.

10.1.2.4.7.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The SS sends a RELEASE message to the UE. The UE shall respond with a RELEASE COMPLETE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE	with cause "Normal, unspecified"
2	->		RELEASE COMPLETE	
3		<-	STATUS ENQUIRY	
4	->		RELEASE COMPLETE	cause 81# (invalid TI value)
5	SS			repeat steps 3-4 to cover all the transaction identifiers from 000...110
6		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
7	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.4.7.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall send a RELEASE COMPLETE message.

After step 3 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.4.8 Outgoing call / U3 UE originating call proceeding / termination requested by the user

10.1.2.4.8.1 Definition

The call control entity of the UE being in the state, U3, the user requests to terminate the call. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.8.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon request by the user to terminate will send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

References

TS 24.007 clause 6.2.2., TS 24.008 clause 5.4.3.

10.1.2.4.8.3 Test purpose

To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", upon request by the user to terminate will send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.2.4.8.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator: 1 cell, default parameters.

User Equipment: The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The user requests termination of the call. The UE shall send a DISCONNECT message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U11, disconnect request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action, terminate call
2	->		DISCONNECT	
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.2.4.8.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.2.4.9 Outgoing call / U3 UE originating call proceeding / traffic channel allocation

10.1.2.4.9.1 Definition

The call control entity of the UE being in the state, U3, a radio bearer establishment procedure is performed. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.9.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, shall stay in CC-state U3.

References

TS 25.331 clause 8.2.1., TS 24.008 clause 5.2.1.9.

10.1.2.4.9.3 Test purpose

To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, stays in CC-state U3.

10.1.2.4.9.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The SS sends a RADIO BEARER SETUP for traffic channel to the UE. The UE shall respond with a RADIO BEARER SETUP COMPLETE message. The SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Radio Bearer Setup Procedure	(DTCH), See TS34.108
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U3

Specific message contents:

None.

10.1.2.4.9.5 Test requirements

After step 1 the CC state U3, "Mobile Originating Call Proceeding", shall remain unchanged.

10.1.2.4.10 Outgoing call / U3 UE originating call proceeding / timer T310 time-out

10.1.2.4.10.1 Definition

The call control entity of the UE being in the state, U3, if no response is then received from the SS, timer T310 expires at the UE side. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.10.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding" shall, upon expiry of timer T310, and not before, initiate call release by sending DISCONNECT and enter the CC-state U11, "Disconnect Request".

References

TS 24.008 clause 5.2.1.3./Abnormal case, TS24.008 clause 5.4.3, TS 24.008 clause 11.3.

10.1.2.4.10.3 Test purpose

To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding" will, upon expiry of timer T310, initiate call release by sending DISCONNECT and enter the CC-state U11, "Disconnect Request".

10.1.2.4.10.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The T310 expires at the UE and the UE shall send DISCONNECT. The SS checks timer T310 accuracy and that the CC entity has entered the state U11, disconnect request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		the SS waits for T310 time-out
2	->		DISCONNECT	check the timer T310 accuracy
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.2.4.10.5 Test requirements

Upon expiry of timer T310, a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding" shall initiate call release by sending a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.2.4.11 Outgoing call / U3 UE originating call proceeding / lower layer failure

10.1.2.4.11.1 Definition

The call control entity of the UE being in the state, U3, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.11.2 Conformance requirement

1) If a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding" has detected a lower layer failure and has returned to idle mode, the CC entities relating to the seven mobile originating transaction identifiers shall be in state U0, "Null".

References

TS 24.008 clause 4.5.2.3., TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 25.331 clause 8.1.4.

10.1.2.4.11.3 Test purpose

To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding" having detected a lower layer failure and having returned to idle mode, the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

10.1.2.4.11.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The UE is brought to the state U3. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure
2		SS		SS waits 20 s for the UE to return to listening to paging
3			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value)
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.4.11.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.4.12 Outgoing call / U3 UE originating call proceeding / unknown message received

10.1.2.4.12.1 Definition

The call control entity of the UE being in the state, U3, an unknown message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.4.12.2 Conformance requirement

1) A CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding" having received an unknown message from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.5.

10.1.2.4.12.3 Test purpose

To verify that a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding" having received an unknown message from its peer entity returns a STATUS message.

10.1.2.4.12.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U3. The SS sends a message with message type not defined for the protocol discriminator to the UE. The UE shall respond with a STATUS message, and finally the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		unknown message	message type not defined for PD
2	->		STATUS	cause 97#, state U3
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U3

Specific message contents:

None.

10.1.2.4.12.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U3, "Mobile Originating Call Proceeding", shall return a STATUS message.

10.1.2.4.13 Outgoing call / U3 UE originating call proceeding / Internal alerting indication

10.1.2.4.13.1 Definition

The call control entity of the UE being in the state, U3, an ALERTING message is sent to the UE when the user connection is not attached to the radio path. ~~This test is applicable for any equipment supporting mobile originated circuit switched basic service for telephony.~~

10.1.2.4.13.2 Conformance requirement

1) When the call control entity of the UE in the "mobile originating call proceeding" state receives an ALERTING message then it shall enter "call delivered" state and, for speech calls, if the user connection is not attached to the radio path, the UE shall internally generate an alerting indication.

References

TS 24.008 clause 5.2.1.5.

10.1.2.4.13.3 Test purpose

When the call control entity of the UE in the "mobile originating call proceeding" state receives an ALERTING message then it enters "call delivered" state and, for speech calls, if the user connection is not attached to the radio path, the UE generates internally an alerting indication.

10.1.2.4.13.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.
- way to give internally generated alerting indication for outgoing calls

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U3 by using table 10.1.2/1.

Test procedure

The SS sends an ALERTING message to the UE. The SS checks by using the status enquiry procedure that the CC entity has entered the state U4, call delivered. Also it is checked that the UE generates internally alerting indication to the user in the way described in the ICS/IXIT statements.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		ALERTING	the UE shall generate an alerting indication to the user in the way described in the ICS/IXIT statements
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U4

Specific message contents:

None.

10.1.2.4.13.5 Test requirements

After step 1 CC entity of the UE in CC state U3, the "Mobile Originating Call Proceeding" shall enter "Call Delivered" state and, for speech calls, if the user connection is not attached to the radio path, the UE shall internally generate an alerting indication.

10.1.2.5 Outgoing call / U4 call delivered

10.1.2.5.1 Outgoing call / U4 call delivered / CONNECT received

10.1.2.5.1.1 Definition

The call control entity of the UE being in the state, U4, a CONNECT message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.5.1.2 Conformance requirement

1) A CC-entity of the UE in CC-state U4, "Call Delivered", upon receipt of the CONNECT message shall return a CONNECT ACKNOWLEDGE to its peer entity and enter the CC-state U10, "Active".

References

TS 24.008 clause 5.2.1.6.

10.1.2.5.1.3 Test purpose

To verify that a CC-entity of the UE in CC-state U4, "Call Delivered", upon receipt of the CONNECT message returns a CONNECT ACKNOWLEDGE to its peer entity and enters the CC-state U10, "Active".

10.1.2.5.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U4 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U4. The SS sends a CONNECT message to the UE. The UE shall respond by sending a CONNECT ACKNOWLEDGE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U10, active.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	CONNECT	
2		->	CONNECT ACKNOWLEDGE	UE stops alerting, if applicable
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U10

Specific message contents:

None.

10.1.2.5.1.5 Test requirements

After step 1 a CC entity of the UE in CC state U4, "Call Delivered", shall return a CONNECT ACKNOWLEDGE message and enter the CC state U10, "Active".

10.1.2.5.2 Outgoing call / U4 call delivered / termination requested by the user

10.1.2.5.2.1 Definition

The call control entity of the UE being in the state, U4, the user requests to terminate the call. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.5.2.2 Conformance requirement

1) A CC-entity of the UE in CC-state U4, "Call Delivered", upon request by the user to terminate shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

References

TS 24.007 clause 6.2.2.,TS 24.008 clause 5.4.3.

10.1.2.5.2.3 Test purpose

To verify that a CC-entity of the UE in CC-state U4, "Call Delivered", upon request by the user to terminate will send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.2.5.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U4 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U4. The user requests termination of the call. The UE shall send a DISCONNECT message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U11, disconnect request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action, terminate call
2	->		DISCONNECT	
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.2.5.2.5 Test requirements

After step 1 a CC entity of the UE in CC state U4, "Call Delivered", shall send a DISCONNECT message and enter the CC state U11, "Disconnect Request".

10.1.2.5.3 Outgoing call / U4 call delivered / DISCONNECT with in band tones

10.1.2.5.3.1 Definition

The call control entity of the UE being in the state, U4, a DISCONNECT message indicating availability of in band information is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.5.3.2 Conformance requirement

1) A CC-entity of the UE in CC-state U4, "Call Delivered" shall, upon receipt of a DISCONNECT with a progress indicator indicating in-band information, shall through-connect the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE shall send a RELEASE message.

References

TS 25.331 clause 8.2.1., TS 24.008 clause 5.4.4.1.1., TS 24.008 clause 5.5.1., TS 24.008 clause 5.2.1.9.

10.1.2.5.3.3 Test purpose

To verify that a CC-entity of the UE in CC-state U4, "Call Delivered", upon receipt of a DISCONNECT with a progress indicator indicating in-band information, through-connects the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE shall send a RELEASE message.

10.1.2.5.3.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U4 by using table10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U4. The SS sends a DISCONNECT message containing indication of in-band information availability to the UE. The SS checks that if channel mode is MO telephony, the DTCH shall be through connected and the UE enters state U12, disconnect indication. If channel mode is not speech, the DTCH shall not be through connected and the UE shall enter state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	DISCONNECT	(note)
A2		SS		DTCH in speech mode: the SS will check that the audio path for in band tones is attached.
A3		<-	STATUS ENQUIRY	
A4		->	STATUS	cause 30#, state U12
B2		->	RELEASE	DTCH is not in speech mode:
B3		<-	STATUS ENQUIRY	
B4		->	STATUS	cause 30#, state U19

Specific message contents:

NOTE: the Progress Indicator, Progress Description:

#8 in band information or appropriate pattern now available.

10.1.2.5.3.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U4, "Call Delivered", shall through-connect the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE shall send a RELEASE message.

10.1.2.5.4 Outgoing call / U4 call delivered / DISCONNECT without in band tones

10.1.2.5.4.1 Definition

The call control entity of the UE being in the state, U4, a DISCONNECT message is received by the UE. The DISCONNECT message does not contain indication of in-band information availability. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.5.4.2 Conformance requirement

1) A CC-entity of the UE in CC-state U4, "Call Delivered", upon receipt of a DISCONNECT without progress indicator, shall return a RELEASE message and enter the CC-state U19, "Release Request".

References

TS 24.008 clause 5.4.4.

10.1.2.5.4.3 Test purpose

To verify that a CC-entity of the UE in CC-state U4, "Call Delivered", upon receipt of a DISCONNECT without progress indicator, returns a RELEASE message and enters the CC-state U19, "Release Request".

10.1.2.5.4.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U4 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U4. The SS sends a DISCONNECT message not containing indication of in-band information availability to the UE. The UE shall respond with a RELEASE message. The SS checks by using the status enquiry procedure that the CC entity of the UE has entered the state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	DISCONNECT	without progress indicator
2		->	RELEASE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U19

Specific message contents:

None.

10.1.2.5.4.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U4, "Call Delivered", shall return a RELEASE message and enter the CC-state U19, "Release Request".

10.1.2.5.5 Outgoing call / U4 call delivered / RELEASE received

10.1.2.5.5.1 Definition

The call control entity of the UE being in the state, U4, a RELEASE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.5.5.2 Conformance requirement

1) A CC-entity of the UE in CC-state U4, "Call Delivered", upon receipt of the RELEASE message shall respond with the RELEASE COMPLETE message and enter the CC-state U0, "Null".

2) The UE on returning to idle mode shall release the MM-connection and the CC-entities relating to the seven mobile originating transaction identifiers shall be in CC-state U0, "Null".

References

Conformance requirement 1: TS 24.008 clause 5.4.2., TS 24.008 clause 5.4.4.

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2.

10.1.2.5.5.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U4, "Call Delivered", upon receipt of the RELEASE message will respond with the RELEASE COMPLETE message and enter the CC-state U0, "Null".

2) To verify that the UE on returning the idle mode releases the MM-connection and that the CC-entities relating to the seven mobile originating transaction identifiers are in CC-state U0, "Null".

10.1.2.5.5.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U4 by using table10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U4. The SS sends a RELEASE message to the UE. The UE shall respond with a RELEASE COMPLETE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		RELEASE	with cause "Normal, unspecified"
2	->		RELEASE COMPLETE	
3	<-		STATUS ENQUIRY	
4	->		RELEASE COMPLETE	cause 81# (invalid TI value)
5	SS			repeat steps 3-4 to cover all the transaction identifiers from 000...110
6	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
7	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.5.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U4, "Call Delivered", shall respond with the RELEASE COMPLETE message.

After step 3 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.5.6 Outgoing call / U4 call delivered / lower layer failure

10.1.2.5.6.1 Definition

The call control entity of the UE being in the state, U4, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.5.6.2 Conformance requirement

1) When CC-entity of the UE in CC-state U4, "Call Delivered" has detected a lower layer failure and has returned to idle mode, the CC-entities relating to the seven mobile originating transaction identifiers shall be in CC-state U0, "Null".

References

TS 24.008 clause 4.5.2.3., TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 25.331 clause 8.1.4.

10.1.2.5.6.3 Test purpose

To verify that a CC-entity of the UE in CC-state U4, "Call Delivered" having detected a lower layer failure and has returned to idle mode, the CC-entities relating to the seven mobile originating transaction identifiers are in CC-state U0, "Null".

10.1.2.5.6.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U4 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The UE is brought to the state U4. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure
2		SS		SS waits 20 s for the UE to return to listening to paging
3			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value)
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.5.6.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.5.7 Outgoing call / U4 call delivered / traffic channel allocation

10.1.2.5.7.1 Definition

The call control entity of the UE being in the state, U4, a radio bearer establishment procedure is performed. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.5.7.2 Conformance requirement

1) A CC-entity of the UE in CC-state U4, "Call Delivered", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, shall stay in CC-state U4.

References

TS 25.331 clause 8.2.1., TS 24.008 clause 5.2.1.9.

10.1.2.5.7.3 Test purpose

To verify that a CC-entity of the UE in CC-state U4, "Call Delivered", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, stays in CC-state U4.

10.1.2.5.7.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U4 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U4. The SS sends a RADIO BEARER SETUP for traffic channel to the UE. The UE shall respond with a RADIO BEARER SETUP COMPLETE message. The SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Radio Bearer Setup Procedure	DTCH, See TS34.108
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U4

Specific message contents:

None.

10.1.2.5.7.5 Test requirements

After step 1 the CC state U4, "Call delivered", shall remain unchanged.

10.1.2.5.8 Outgoing call / U4 call delivered / unknown message received

10.1.2.5.8.1 Definition

The call control entity of the UE being in the state, U4, an unknown message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.5.8.2 Conformance requirement

1) A CC-entity of the UE in CC-state U4, "Call Delivered", having received an unknown message from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.4.

10.1.2.5.8.3 Test purpose

To verify that a CC-entity of the UE in CC-state U4, "Call Delivered", having received an unknown message from its peer entity returns a STATUS message.

10.1.2.5.8.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U4 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U4. The SS sends a message with message type not defined for the protocol discriminator to the UE. The UE shall respond with a STATUS message, and finally the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		unknown message	message type not defined for PD
2	->		STATUS	cause 97#, state U4
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U4

Specific message contents:

None.

10.1.2.5.8.5 Test requirements

After step 1 a CC entity of the UE in CC state U3, "Mobile Originating Call Proceeding", shall return a STATUS message.

10.1.2.6 U10 call active

10.1.2.6.1 U10 call active / termination requested by the user

10.1.2.6.1.1 Definition

The call control entity of the UE being in the state, U10, the user requests to terminate the call. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.6.1.2 Conformance requirement

1) A CC-entity of the UE in CC-state U10, "Call Active", upon request by the user to terminate shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

References

TS 24.007 clause 6.2.2., TS 24.008 clause 5.4.3.

10.1.2.6.1.3 Test purpose

To verify that the a CC-entity of the UE in CC-state U10, "Call Active", upon request by the user to terminate will send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.2.6.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U10 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U10. The user requests termination of the call. The UE shall send a DISCONNECT message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U11, disconnect request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action, terminate call
2	->		DISCONNECT	U11
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.2.6.1.5 Test requirements

After step 1 a CC entity of the UE in CC state U10, "Call Active", shall send a DISCONNECT message and enter the CC state U11, "Disconnect Request".

10.1.2.6.2 U10 call active / RELEASE received

10.1.2.6.2.1 Definition

The call control entity of the UE being in the state, U10, a RELEASE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.6.2.2 Conformance requirement

1) A CC-entity of the UE in CC-state U10, "Call Active", upon receipt of the RELEASE shall respond with the RELEASE COMPLETE message and enter the CC-state U0, "Null"

2) When the UE returns to the idle mode it shall release the MM-connection and the CC-entities relating to the seven mobile originating transaction identifiers shall be in CC-state U0, "Null"

References

Conformance requirement 1: TS 24.008 clause 5.4.2., TS 24.008 clause 5.4.4.

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2.

10.1.2.6.2.3 Test purpose

1) To verify that the a CC-entity of the UE in CC-state U10, "Call Active", upon receive of the RELEASE will respond with the RELEASE COMPLETE message and enter the CC-state U0, "Null"

2) To verify that the UE on returning to the idle mode releases the MM-connection and that the CC-entities relating to the seven mobile originating transaction identifiers are in CC-state U0, "Null"

10.1.2.6.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U10 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to

initiate a call. The CC entity of the UE is brought to the state U10. The SS sends a RELEASE message to the UE. The UE shall respond with a RELEASE COMPLETE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		RELEASE	with cause "Normal, unspecified"
2	->		RELEASE COMPLETE	the UE starts T3240
3	<-		STATUS ENQUIRY	
4	->		RELEASE COMPLETE	cause 81# (invalid TI value)
5		SS		repeat steps 3-4 to cover all the transaction identifiers from 000...110
6	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
7	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.6.2.5 Test requirements

After step 1 a CC entity of the UE in CC state U10, "Call Active", shall return a RELEASE COMPLETE message.

After step 3 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.6.3 U10 call active / DISCONNECT with in band tones

10.1.2.6.3.1 Definition

The call control entity of the UE being in the state, U10, a DISCONNECT message indicating availability of in band information is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.6.3.2 Conformance requirement

1) A CC-entity of the UE in CC-state U10, "Call Active", upon receipt of a DISCONNECT message with a Progress Indicator indicating in-band information, shall through-connect the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE shall send a RELEASE message.

References

TS 24.008 clause 5.4.4.1.1., TS 24.008 clause 5.5.1.

10.1.2.6.3.3 Test purpose

To verify that a CC-entity of the UE in CC-state U10, "Call Active", upon receipt of a DISCONNECT message with a Progress Indicator indicating in-band information, through-connects the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE sends a RELEASE message.

10.1.2.6.3.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U10 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U10. The SS sends a DISCONNECT message containing indication of in-band information availability to the UE. The SS checks that if channel mode is speech, the DTCH shall be through connected and the UE enters state U12, disconnect indication. If channel mode is not speech, the DTCH shall not be through connected and the UE enters state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		DISCONNECT	(note)
A2	SS			DTCH in speech mode: the SS will check that the audio path for in band tones is attached.
A3	<-		STATUS ENQUIRY	
A4	->		STATUS	cause 30#, state U12
				DTCH is not in speech mode:
B2	->		RELEASE	
B3	<-		STATUS ENQUIRY	
B4	->		STATUS	cause 30#, state U19

Specific message contents:

NOTE: the Progress Indicator, Progress Description:

#8 in band information or appropriate pattern now available.

10.1.2.6.3.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U10, "Call Active", shall through-connect the speech channel to make in-band announcements available, if traffic channel is in speech mode. If DTCH is not in speech mode, the UE shall send a RELEASE message.

10.1.2.6.4 U10 call active / DISCONNECT without in band tones

10.1.2.6.4.1 Definition

The call control entity of the UE being in the state, U10, a DISCONNECT message is received by the UE. The DISCONNECT message does not contain indication of in-band information availability. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.6.4.2 Conformance requirement

1) A CC-entity of the UE in CC-state U10, "Call Active", upon receipt of a DISCONNECT message without progress indicator, shall return a RELEASE message and enter the CC-state U19, "Release Request".

References

TS 24.008 clause 5.4.4.

10.1.2.6.4.3 Test purpose

To verify that the a CC-entity of the UE in CC-state U10, "Call Active", upon receipt of a DISCONNECT message without progress indicator, returns a RELEASE message and enters the CC-state U19, "Release Request".

10.1.2.6.4.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U10 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U10. The SS sends a DISCONNECT message not containing indication of in-band information availability to the UE. The UE shall respond with a RELEASE message. The SS checks by using the status enquiry procedure that the CC entity of the UE has entered the state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	DISCONNECT	without progress indicator
2		->	RELEASE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U19

Specific message contents:

None.

10.1.2.6.4.5 Test requirements

A CC-entity of the UE in CC-state U10, "Call Active", shall return a RELEASE message and enter the CC-state U19, "Release Request".

10.1.2.6.5 U10 call active / RELEASE COMPLETE received

10.1.2.6.5.1 Definition

The call control entity of the UE being in the state, U10, the call is cleared by a RELEASE COMPLETE message sent by the SS. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.6.5.2 Conformance requirement

1) A CC entity of the UE in CC-state U10, "active", upon receipt of a RELEASE COMPLETE message with valid cause value, shall enter CC state U0, "Null".

2) On returning to idle mode, the CC entities relating to the seven mobile originating transaction identifiers shall be in state U0, "Null".

References

Conformance requirement 1: TS 24.008, clause 5.4.2, TS 24.008, clause 5.4.4.

Conformance requirement 2: TS 24.008, clause 5.4.4.1.3.

10.1.2.6.5.3 Test purpose

1) To verify that a CC entity of the UE in CC-state U10, "Call active" upon receipt of a RELEASE COMPLETE message with valid cause value, enters CC state U0, "Null".

2) To verify that in returning to idle mode, the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

10.1.2.6.5.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U10 by using table 10.1.2/1.

Test procedure

The SS sends a RELEASE COMPLETE message to the UE. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		RELEASE COMPLETE	note 1
2	<-		STATUS ENQUIRY	note 2
3	->		RELEASE COMPLETE	cause 81# (invalid TI value),
4	SS			repeat steps 2-3 to cover all the transaction identifiers from 000...110
5	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
6	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

NOTE 1: With the cause value chosen arbitrarily.

NOTE 2: TI flag has the value indicating the UE as a originator of the call.

10.1.2.6.5.5 Test requirements

After step 2 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.6.6 U10 call active / SETUP received

10.1.2.6.6.1 Definition

If the UE does not react correctly when receiving a SETUP message on a new Transaction Identifier during an active call, the active call may be lost.

~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.6.6.2 Conformance requirement

1) A UE that has a call established when receiving a SETUP message shall respond either with a CALL CONFIRMED message or a RELEASE COMPLETE message, both with cause #17 "user busy".

2) The call control state of the existing transaction shall not be affected by the incoming SETUP message.

Reference(s):

Conformance requirement 1: TS 24.008, clause 5.2.2.3.1.

Conformance requirement 2: TS 24.008, clause 5.1.1.

10.1.2.6.6.3 Test purpose

1) To verify that a User Equipment that has a call established and receives a SETUP message answers either with a CALL CONFIRMED message with cause "user busy" if it supports call waiting, or with a RELEASE COMPLETE message with cause "user busy" otherwise.

2) To verify that after having sent this message, the UE is still in state U10 for the established call.

10.1.2.6.6.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is idle updated with valid TMSI and CKSN.

The UE is brought into the state U10 by using table 10.1.2/1.

Related ICS/IXIT statement(s)

- supported MO circuit switched basic services.

- support of call waiting Y/N.

Test Procedure

The UE has a mobile originated call in the U10 state. When UE sends a SETUP message and SS receives it in the first call establishment, SS sends a CALL PROCEEDINF message without Network Call Control Capability IE.

The SS sends a SETUP message to the UE (with signal IE indicating "call waiting tone on" and without Network Call Control Capability IE).

If the UE does not support call waiting it shall answer by a RELEASE COMPLETE message.

If the UE supports call waiting it shall answer by a CALL CONFIRMED message followed by an ALERTING. The second transaction is then released by the SS with a RELEASE COMPLETE message.

In both cases the SS checks by using the status enquiry procedure that the CC entity of the UE is still in state U10, active call for the original call.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	SETUP	this message establishes a second transaction The TI value shall be the same as the one that is in use for the MO call. The TI flag shall have the value specified for an MT call.
A2		->	RELEASE COMPLETE	if the UE does not support call waiting with cause user busy" with the TI of the second transaction
B2		->	CALL CONFIRMED	if the UE supports call waiting with cause user busy" with the TI of the second transaction
B3		->	ALERTING	with the TI of the second transaction
B4		<-	RELEASE COMPLETE	with the TI of the second transaction
5		<-	STATUS ENQUIRY	with the TI of the original transaction
6		->	STATUS	cause 30#, state U10 with the TI of the original transaction

NOTE: The Transaction Identifier of the second transaction shall be different from the one of the already established transaction.

Specific message contents

SETUP message contains a Signal IE with value "call waiting tone on" (H'07).

10.1.2.6.6.5 Test requirements

After step 1 a UE that has a call established shall answer either with a CALL CONFIRMED message with cause "user busy" if it supports call waiting, or with a RELEASE COMPLETE message with cause "user busy" otherwise.

After step A2 or B2 the UE is still in state U10 for the established call.

10.1.2.7 U11 disconnect request

10.1.2.7.1 U11 disconnect request / clear collision

10.1.2.7.1.1 Definition

The call control entity of the UE being in the state, U11, a DISCONNECT message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.7.1.2 Conformance requirement

1) A CC-entity of the UE in CC-state U11, "Disconnect Request", upon receipt of a DISCONNECT message, shall return to its peer entity the RELEASE message and enter the CC-state U19, "Release Request".

References

TS 24.008 clause 5.4.5.

10.1.2.7.1.3 Test purpose

To verify that the a CC-entity of the UE in CC-state U11, "Disconnect Request", upon receipt of a DISCONNECT message, returns to its peer entity the RELEASE message and enters the CC-state U19, "Release Request".

10.1.2.7.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U11 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U11. The SS sends a DISCONNECT message to the UE. The UE shall respond with a RELEASE message. The SS checks by using the status enquiry procedure that the CC entity of the UE has entered the state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	DISCONNECT	
2		->	RELEASE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U19

Specific message contents:

None.

10.1.2.7.1.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U11, "Disconnect Request", shall return the RELEASE message and enter the CC-state U19, "Release Request".

10.1.2.7.2 U11 disconnect request / RELEASE received

10.1.2.7.2.1 Definition

The call control entity of the UE being in the state, U11, a RELEASE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.7.2.2 Conformance requirement

1) A CC-entity of the UE in CC-state U11, "Disconnect Request", upon receipt of the RELEASE message shall return RELEASE COMPLETE and enter the CC-state U0, "Null".

2) On returning to the idle mode the UE shall release the MM-connection and the CC-entities relating to the seven mobile originating transaction identifiers shall be in CC-state U0, "Null".

References

Conformance requirement 1: TS 24.008 clause 5.4.3.

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 24.008 clause 8.3.

10.1.2.7.2.3 Test purpose

1) To verify that the a CC-entity of the UE in CC-state U11, "Disconnect Request", upon receipt of the RELEASE message shall return RELEASE COMPLETE and enter the CC-state U0, "Null".

2) To verify that the UE on returning to the idle mode releases the MM-connection and that the CC-entities relating to the seven mobile originating transaction identifiers are in CC-state U0, "Null".

10.1.2.7.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U11 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U11. The SS sends a RELEASE message to the UE. The UE shall respond with a RELEASE COMPLETE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE	
2		->	RELEASE COMPLETE	
3		<-	STATUS ENQUIRY	
4		->	RELEASE COMPLETE	cause 81# (invalid TI value)
5		SS		repeat steps 3-4 to cover all the transaction identifiers from 000...110
6		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
7		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.7.2.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U11, "Disconnect Request", shall return the RELEASE COMPLETE.

After step 3 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.7.3 U11 disconnect request / timer T305 time-out

10.1.2.7.3.1 Definition

The call control entity of the UE being in the state, U11, if no response is then received from the SS, timer T305 expires at the UE side. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.7.3.2 Conformance requirement

1) A CC-entity of the UE in CC-state U11, "Disconnect Request" shall on expiry of T305, proceed with the connection release procedure by sending the RELEASE message to its peer entity and shall enter the CC-state U19, "Release Request".

References

TS 24.008 clause 5.4.3., TS 24.008 clause 11.3.

10.1.2.7.3.3 Test purpose

To verify that the CC-entity of the UE in CC-state U11, "Disconnect Request" shall on expiry of T305, proceed with the connection release procedure by sending the RELEASE message to its peer entity and enters the CC-state U19, "Release Request".

10.1.2.7.3.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U11 by using table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U11. Then T305 expires at the UE and the UE shall send a RELEASE message. The SS checks timer T305 accuracy and that the CC entity has entered the state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS waits until T305 expires at the UE
2		->	RELEASE	SS checks the time between DISCONNECT and RELEASE (note), check the timer T305 accuracy
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U19

Specific message contents:

NOTE: With the same cause value as originally contained in the DISCONNECT message. An additional cause information element (#102 recovery on timer expiry) may be included.

10.1.2.7.3.5 Test requirements

Upon expiry of timer T305 a CC-entity of the UE in CC-state U11, "Disconnect Request", shall proceed with the connection release procedure by sending the RELEASE message and enter the CC-state U19, "Release Request".

10.1.2.7.4 U11 disconnect request / lower layer failure

10.1.2.7.4.1 Definition

The call control entity of the UE being in the state, U11, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.7.4.2 Conformance requirement

1) A CC-entity of the UE in CC-state U11, "Disconnect Request" having detected a lower layer failure shall return to the idle mode. The CC entities relating to the seven mobile originating transaction identifiers shall be in state U0, "Null".

References

TS 24.008 clause 4.5.2.3., TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 25.331 clause 8.1.4., TS 24.008 clause 8.3.

10.1.2.7.4.3 Test purpose

To verify that the a CC-entity of the UE in CC-state U11, "Disconnect Request" having detected a lower layer failure returns to the idle mode. The CC entities relating to the seven mobile originating transaction identifiers are thus in state U0, "Null".

10.1.2.7.4.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U11 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The UE is brought to the state U11. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure
2		SS		SS waits 20 s for the UE to return to listening to paging
3			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value)
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.7.4.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.7.5 U11 disconnect request / unknown message received

10.1.2.7.5.1 Definition

The call control entity of the UE being in the state, U4, an unknown message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.7.5.2 Conformance requirement

1) A CC-entity of the UE in CC-state U100, "Call Delivered", having received an unknown message from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.4.

10.1.2.7.5.3 Test purpose

To verify that a CC-entity of the UE in CC-state U11, "Call Delivered", having received an unknown message from its peer entity returns a STATUS message.

10.1.2.7.5.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U11 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U11. The SS sends a message with message type not defined for the protocol discriminator to the UE. The UE shall respond with a STATUS message, and finally the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		unknown message	message type not defined for PD
2	->		STATUS	cause 97#, state U11
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.2.7.5.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U11, "Disconnect Request", shall return a STATUS message.

10.1.2.8 U12 disconnect indication

10.1.2.8.1 U12 disconnect indication / call releasing requested by the user

10.1.2.8.1.1 Definition

The call control entity of the UE being in the state, U12, the user requests to terminate the call. ~~This test is applicable only for user equipment supporting bearer capability for speech.~~

10.1.2.8.1.2 Conformance requirement

1) A CC-entity of the UE in CC-state U12, "Disconnect Indication" being in network initiated call release phase, shall, upon receiving a call release request from the user send a RELEASE to its peer entity and enter CC-state U19, "Release Request".

References

TS 24.007 clause 6.2.2., TS 24.008 clause 5.4.4.

10.1.2.8.1.3 Test purpose

To verify that a CC-entity of the UE in CC-state U12, "Disconnect Indication" being in network initiated call release phase, shall, upon receiving a call release request from the user sends a RELEASE to its peer entity and enters CC-state U19, "Release Request"

10.1.2.8.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U12 by using Option A of table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U12. The user requests termination of the call. The UE shall send a RELEASE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action, "on hook"
2	->		RELEASE	
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U19

Specific message contents:

None.

10.1.2.8.1.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U12, "Disconnect Indication" being in network initiated call release phase, shall send a RELEASE message and enter CC-state U19, "Release Request".

10.1.2.8.2 U12 disconnect indication / RELEASE received

10.1.2.8.2.1 Definition

The call control entity of the UE being in the state, U12, a RELEASE message is received by the UE. ~~This test is applicable only for user equipment supporting bearer capability for speech.~~

10.1.2.8.2.2 Conformance requirement

1) A CC-entity of the UE in CC-state U12, "Disconnect Indication", upon receipt of a RELEASE message shall return to its peer entity the RELEASE COMPLETE message and enter the CC-state U0, "Null".

2) On returning to the idle mode the UE shall release the MM-connection and the CC-entities relating to the seven mobile originating transaction identifiers shall be in CC-state U0, "Null".

References

Conformance requirement 1: TS 24.008 clause 5.4.2

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 24.008 clause 8.3.

10.1.2.8.2.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U12, "Disconnect Indication", upon receipt of a RELEASE message returns to its peer entity the RELEASE COMPLETE message and enters the CC-state U0, "Null".

2) To verify that the UE on returning to the idle mode releases the MM-connection and that the CC-entities relating to the seven mobile originating transaction identifiers are in CC-state U0, "Null".

10.1.2.8.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U12 by using Option A of table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U12. The SS sends a RELEASE message to the UE. The UE shall respond with a RELEASE COMPLETE message. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE	
2		->	RELEASE COMPLETE	
3		<-	STATUS ENQUIRY	
4		->	RELEASE COMPLETE	cause 81# (invalid TI value)
5		SS		repeat steps 3-4 to cover all the transaction identifiers from 000...110
6		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
7		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.8.2.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U12, "Disconnect Indication", shall return the RELEASE COMPLETE message.

After step 3 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.8.3 U12 disconnect indication / lower layer failure

10.1.2.8.3.1 Definition

The call control entity of the UE being in the state, U12, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable only for user equipment supporting bearer capability for speech.~~

10.1.2.8.3.2 Conformance requirement

1) A CC-entity of the UE in CC-state U12, "Disconnect Indication" having detected a lower layer failure shall return to idle mode. The CC-entities relating to the seven mobile originating transaction identifiers shall be in state U0, "Null".

References

TS 24.008 clause 4.5.3.2., TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 25.331 clause 8.1.4., TS 24.008 clause 8.3.

10.1.2.8.3.3 Test purpose

To verify that a CC-entity of the UE in CC-state U12, "Disconnect Indication" having detected a lower layer failure returns to idle mode. The CC-entities relating to the seven mobile originating transaction identifiers are thus in state U0, "Null".

10.1.2.8.3.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U12 by using Option A of table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The UE is brought to the state U12. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure
2		SS		SS waits 20 s for the UE to return to listening to paging
3			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value)
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.8.3.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.8.4 U12 disconnect indication / unknown message received

10.1.2.8.4.1 Definition

The call control entity of the UE being in the state, U12, an unknown message is received by the UE. ~~This test is applicable only for user equipment supporting bearer capability for speech.~~

10.1.2.8.4.2 Conformance requirement

A CC-entity of the UE in CC-state U12, "Disconnect Indication" having received an unknown message from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.4.

10.1.2.8.4.3 Test purpose

To verify that a CC-entity of the UE in CC-state U12, "Disconnect Indication" having received an unknown message from its peer entity returns a STATUS message.

10.1.2.8.4.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U12 by using Option A of table 10.1.2/3.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U12. The SS sends a message with message type not defined for the protocol discriminator to the UE. The UE shall respond with a STATUS message, and finally the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		unknown message	message type not defined for PD
2	->		STATUS	cause 97#, state U12
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U12

Specific message contents:

None.

10.1.2.8.4.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U12, "Disconnect Indication", shall return a STATUS message.

10.1.2.9 Outgoing call / U19 release request

10.1.2.9.1 Outgoing call / U19 release request / timer T308 time-out

10.1.2.9.1.1 Definition

The call control entity of the UE being in the state, U19, if no response is then received from the SS, timer T308 expires at the UE side. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.9.1.2 Conformance requirement

1) A CC-entity of the UE in CC-state U19, "Release Request" will, upon the first expiry of timer T308 send the RELEASE message to its peer entity and remain in the CC-state U19.

References

TS 24.008 clause 5.4.4.1.3.1, TS 24.008 clause 11.3.

10.1.2.9.1.3 Test purpose

To verify that a CC-entity of the UE in CC-state U19, "Release Request" will, upon the first expiry of timer T308 send the RELEASE message to its peer entity and remain in the CC-state U19.

10.1.2.9.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U19 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U19. When T308 expires at the UE, the UE shall send a RELEASE message. The SS checks timer T308 accuracy and that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS waits until T308 at the UE
2	->		RELEASE	SS checks the time between the two RELEASE messages check the timer T308 accuracy
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U19

Specific message contents:

None.

10.1.2.9.1.5 Test requirements

Upon the first expiry of timer T308 (after step 1) a CC-entity of the UE in CC-state U19, "Release Request", shall send the RELEASE message and remain in the CC-state U19.

10.1.2.9.2 Outgoing call / U19 release request / 2nd timer T308 time-out

10.1.2.9.2.1 Definition

The call control entity of the UE being in the state, U19, if no response is then received after timer T308 has expired two times in success at the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.9.2.2 Conformance requirement

1) A CC-entity of the UE in CC-state U19, "Release Request", upon the 2nd expiry of the timer T308, shall enter the CC-state U0, "Null".

2) Subsequently the UE shall proceed with releasing the MM-connection and enter the idle mode with the CC entities relating to the seven mobile originating transaction identifiers in state U0, "Null".

References

Conformance requirement 1: TS 24.008 clause 5.4.4.1.3.1., TS 24.008 clause 11.3.

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2.

10.1.2.9.2.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U19, "Release Request", upon the 2nd expiry of the timer T308, enters the CC-state U0, "Null".

2) To verify that subsequently the UE proceeds with releasing the MM-connection and enters the idle mode with the CC entities relating to the seven mobile originating transaction identifiers in state U0, "Null".

10.1.2.9.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U19 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U19. The SS allows T308 expiry at the UE, and the UE shall repeat sending the RELEASE message and start timer T308 again. The SS allows again T308 expiry at the UE. The UE shall abort the RRC connection. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS waits until T308 expiry at the UE
2	->		RELEASE	
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U19
5		SS		SS waits until the second T308 expiry at the UE
6		SS		SS waits T3240 expiry at the UE
7	UE			the main signalling link shall be released.
8		SS		SS waits 10 s for the UE to return to listening to paging
9			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
10	<-		STATUS ENQUIRY	
11	->		RELEASE COMPLETE	cause 81# (invalid TI value)
12		SS		repeat steps 10-11 to cover all the transaction identifiers from 000...110
13	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
14	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.9.2.5 Test requirements

Upon the 2nd expiry of the timer T308 (after step 5) a CC-entity of the UE in CC-state U19, "Release Request", shall enter the CC-state U0, "Null".

After step 10 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.9.3 Outgoing call / U19 release request / RELEASE received

10.1.2.9.3.1 Definition

The call control entity of the UE being in the state, U19, a RELEASE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.9.3.2 Conformance requirement

1) A CC-entity of the UE in CC-state U19, "Release Request", upon receipt of a RELEASE, shall release the MM-connection and enter the CC-state U0, "Null" with the CC entities relating to the seven mobile originating transaction identifiers in state U0, "Null".

References

TS 24.008 clause 5.4.5., TS 24.008 clause 11.3, TS 24.008 clause 5.5.3.2.

10.1.2.9.3.3 Test purpose

To verify that a CC-entity of the UE in CC-state U19, "Release Request", upon receipt of a RELEASE, shall release the MM-connection and enters the CC-state U0, "Null" with the CC entities relating to the seven mobile originating transaction identifiers in state U0, "Null".

10.1.2.9.3.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U19 by using table 10.1.2/4.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U19. The SS sends a RELEASE message to the UE. The UE shall release the MM-connection. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE	(note)
2		<-	STATUS ENQUIRY	
3		->	RELEASE COMPLETE	cause 81# (invalid TI value)
4		SS		repeat steps 2-3 to cover all the transaction identifiers from 000...110
5		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
6		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

NOTE: With the same cause number as originally contained in DISC and optional cause #102 recovery on timer expiry.

10.1.2.9.3.5 Test requirements

After step 2 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.9.4 Outgoing call / U19 release request / RELEASE COMPLETE received

10.1.2.9.4.1 Definition

The call control entity of the UE being in the state, U19, a RELEASE COMPLETE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.9.4.2 Conformance requirement

1) A CC-entity of the UE in CC-state U19, "Release Request", upon receipt of a RELEASE COMPLETE, shall release the MM-connection and enter the CC-state U0, "Null" with the CC entities relating to the seven mobile originating transaction identifiers in state U0, "Null".

References

TS 24.008 clause 5.4.4.1.3., TS 24.;008 clause 4.5.3, TS 24.008 clause 8.3.

10.1.2.9.4.3 Test purpose

To verify that a CC-entity of the UE in CC-state U19, "Release Request", upon receipt of a RELEASE COMPLETE, shall release the MM-connection and enters the CC-state U0, "Null" with the CC entities relating to the seven mobile originating transaction identifiers in state U0, "Null".

10.1.2.9.4.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U19 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The CC entity of the UE is brought to the state U19. The SS sends a RELEASE COMPLETE message to the UE. The UE shall release the MM-connection. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		RELEASE COMPLETE	
2	<-		STATUS ENQUIRY	
3	->		RELEASE COMPLETE	cause 81# (invalid TI value)
4	SS			repeat steps 2-3 to cover all the transaction identifiers from 000...110
5	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
6	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.9.4.5 Test requirements

After step 2 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.2.9.5 Outgoing call / U19 release request / lower layer failure

10.1.2.9.5.1 Definition

The call control entity of the UE being in the state, U19, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.1.2.9.5.2 Conformance requirement

A CC-entity of the UE in CC-state U19, "Release Request", having detected a lower layer failure, shall return to the idle mode, the CC entities relating to the seven mobile originating transaction identifiers shall be in state U0, "Null".

References

TS 24.008 clause 4.5.2.3., TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 24.008 clause 8.3.

10.1.2.9.5.3 Test purpose

To verify that a CC-entity of the UE in CC-state U19, "Release Request", having detected a lower layer failure, returns to the idle mode, the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

10.1.2.9.5.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U19 by using table 10.1.2/1.

Test procedure

An MO circuit switched basic service is selected that is supported by the UE; if the UE supports MO telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then, the UE is made to initiate a call. The UE is brought to the state U19. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure
2		SS		SS waits 20 s for the UE to return to listening to paging
3			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value)
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.2.9.5.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3 Establishment of an incoming call / Initial conditions

The tables below describe message exchanges which bring the UE in the requested initial states in case of an incoming call.

A state may be taken as initial only when all the states which lead to this initial states have been validated. The order will be U0, U6, U9, U7, U8, U10, U26 etc. as in the following tables.

Table 10.1.3/1: Establishment of an incoming call, procedure 1

Step	Direction		Message	Comments
	UE	SS		
1			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
2	->		PAGING RESPONSE	
3	<-		AUTHENTICATION REQUEST	
4	->		AUTHENTICATION RESPONSE	
5	<-		SECURITY MODE COMMAND	
6	->		SECURITY MODE COMPLETE	
7	<-		SETUP	U6, (note 1)
8	->		CALL CONFIRMED	U9
A9	->		CONNECT	U8, p = Y, (note 2)
B9	->		ALERTING	U7, p = N, (note 2)
B10	UE			(note 3)
B11	->		CONNECT	U8
12			Radio Bearer Setup Procedure	DTCH, See TS34.108
13	<-		CONNECT ACKNOWLEDGE	U10

NOTE 1: With signal information included in the SETUP message.

NOTE 2: The UE is supporting immediate connect (p = Y/N). See ICS/IXIT statement.

NOTE 3: If necessary (see ICS/IXIT statement), the UE is made to accept the call in the way described in a ICS/IXIT statement.

Table 10.1.3/2: Establishment of an incoming call, procedure 2

Step	Direction		Message	Comments
	UE	SS		
1			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
2		->	PAGING RESPONSE	
3		<-	SECURITY MODE COMMAND	
4		->	SECURITY MODE COMPLETE	
5		<-	SETUP	U6, (note 4)
6		->	CALL CONFIRMED	U9
A7		->	CONNECT	U8, p = Y, (note 5)
A8			Radio Bearer Setup Procedure	DTCH, See TS34.108
B7		->	ALERTING	U7, p = N, (note 5)
B8			Radio Bearer Setup Procedure	DTCH, See TS34.108
B9	UE			(note 6)
B10		->	CONNECT	U8
11		<-	AUTHENTICATION REQUEST	
12		->	AUTHENTICATION RESPONSE	
13		<-	CONNECT ACKNOWLEDGE	U10

NOTE 4: With signal information included in the SETUP message.

NOTE 5: The UE is supporting immediate connect (p = Y/N). See ICS/IXIT statement.

NOTE 6: If necessary (see ICS/IXIT statement), the UE is made to accept the call in the way described in a ICS/IXIT statement.

Table 10.1.3/3: Void

Table 10.1.3/4: Establishment of an incoming call, procedure 4

Step	Direction		Message	Comments
	UE	SS		
1			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
2		->	PAGING RESPONSE	
3		<-	SECURITY MODE COMMAND	
4		->	SECURITY MODE COMPLETE	
5		<-	SETUP	U6, (note 11)
6		->	CALL CONFIRMED	U9
7			Radio Bearer Setup Procedure	DTCH, See TS34.108
A8		->	CONNECT	U8, p = Y, (note 12)
B8		->	ALERTING	U7, p = N, (note 12)
B9	UE			(note 13)
B10		->	CONNECT	U8
11		<-	AUTHENTICATION REQUEST	
12		->	AUTHENTICATION RESPONSE	
13		<-	CONNECT ACKNOWLEDGE	U10

NOTE 11: The signal information element is not included in the SETUP message.

NOTE 12: The UE is supporting immediate connect (p = Y/N). See ICS/IXIT statement.

NOTE 13: If necessary (see ICS/IXIT statement), the UE is made to accept the call in the way described in a ICS/IXIT statement.

10.1.3.1 Incoming call / U0 null state

10.1.3.1.1 Incoming call / U0 null state / SETUP received with a non supported bearer capability

10.1.3.1.1.1 Definition

The call control entity of the UE being in the state, U0, a SETUP message is received with only one bearer capability and this bearer capability is not supported by the UE. ~~This test is applicable for all equipment.~~

10.1.3.1.1.2 Conformance requirement

1) A CC entity of the UE, upon receipt of SETUP containing one bearer capability and this bearer capability is not supported, shall return a RELEASE COMPLETE with correct cause value to its peer entity and return to the idle mode. The CC-entities relating to the seven mobile terminating transaction identifiers shall be in the state U0,"Null".

References

TS 24.008 clause 5.2.2.2., TS 24.008 annex B.

10.1.3.1.1.3 Test purpose

To verify that a CC entity of the UE, upon receipt of SETUP containing one bearer capability and this bearer capability is not supported, returns a RELEASE COMPLETE with correct cause value to its peer entity, and returns to the idle mode. To verify that the CC-entities relating to the seven mobile terminating transaction identifiers are then in the state U0,"Null".

10.1.3.1.1.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

A mobile terminated call is initiated. The UE receives a SETUP message that contains a bearer capability not supported by the UE. The UE returns a RELEASE COMPLETE message. The SS checks by using the status enquiry procedure that the CC entity is still in the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	SS sends paging, See TS34.108
2	->		PAGING RESPONSE	
3	<-		AUTHENTICATION REQUEST	
4	->		AUTHENTICATION RESPONSE	
5	<-		SECURITY MODE COMMAND	
6	->		SECURITY MODE COMPLETE	
7	<-		SETUP	(note 1)
8	->		RELEASE COMPLETE	(note 2)
9	<-		STATUS ENQUIRY	
10	->		RELEASE COMPLETE	Cause #81 (invalid TI value).
11	SS			Repeat steps 9-10 to cover all the transaction identifiers from 000... 110.

Specific message contents:

NOTE 1: With one bearer capability and that bearer capability is not supported by the UE.

NOTE 2: With cause #88 incompatible destination.

10.1.3.1.1.5 Test requirements

After step 7 a CC entity of the UE shall return a RELEASE COMPLETE message with cause value #88 (incompatible destination) and return to the idle mode.

After step 9 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.2 Incoming call / U6 call present

10.1.3.2.1 Incoming call / U6 call present / automatic call rejection

10.1.3.2.1.1 Definition

Although the state U6 is transient, the ability to refuse a call (automatically) in this state is tested, if it is implemented at the UE. ~~The test is applicable for those equipments described above supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.2.1.2 Conformance requirement

1) A CC entity of the UE in CC-state U6, "Call Present", upon receipt of a rejection indication of the incoming call from the user, send RELEASE COMPLETE with the appropriate cause value to its peer entity and enter the CC-state U0, "Null". The CC entities relating to the seven mobile terminating transaction identifiers shall be in state U0, "Null".

References

TS 24.007 clause 6.2.2., TS 24.008 clause 5.2.2.3.1., TS 24.008 clause 5.5.3.2, TS 24.008 clause 8.3.

10.1.3.2.1.3 Test purpose

To verify that a CC entity of the UE in CC-state U6, "Call Present", shall upon receipt of a rejection indication of the incoming call from the user, shall send RELEASE COMPLETE with the appropriate cause value to its peer entity and enter the CC-state U0, "Null". The CC entities relating to the seven mobile terminating transaction identifiers are then in state U0, "Null".

10.1.3.2.1.4 Method of test

Related ICS/IXIT statements

- supported teleservices;
- the UE supports an ability to refuse a call after receipt of a SETUP message.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U6 by using table 10.1.3/2.

Test procedure

A teleservice is selected that is supported by the UE; if the UE supports speech, the selected teleservice is speech. If necessary, the UE is configured for that teleservice. Then a mobile terminated call is initiated. The call control entire of the UE is brought to the state U6 (Note: The state U6 is not checked, since it is not stable). The UE is made to refuse the call (the refusal may require some preliminary preparations in order to achieve refusal at this point). The UE shall send a RELEASE COMPLETE message and enter a call control state U0. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				the UE is made to refuse the call
2		->	RELEASE COMPLETE	(note)
3		<-	STATUS ENQUIRY	
4		->	RELEASE COMPLETE	cause 81# (invalid TI value)
5		SS		repeat steps 3-4 to cover all the transaction identifiers from 000...110
6		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
7		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

NOTE: With cause value #21 call rejected.

10.1.3.2.1.5 Test requirements

After step 1 a CC entity of the UE shall return a RELEASE COMPLETE message with cause value #21 (call rejected) and return to the idle mode.

After step 11 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.3 Incoming call / U9 mobile terminating call confirmed

10.1.3.3.1 Incoming call / U9 mobile terminating call confirmed / alerting or immediate connecting

10.1.3.3.1.1 Definition

The call control entity of the UE having entered the state, U9, with signal information received in the preceding SETUP message, the subsequent behaviour of the UE is tested. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.3.1.2 Conformance requirement

1) A CC entity in CC-state U9, "Mobile Terminating Call Confirmed", (if signalled by the network in previous SETUP message that it may alert) shall either send a ALERTING message to its peer entity and enter state U7, or send a CONNECT message to its peer entity and enter U8.

References

TS 24.008 clause 5.2.2.3.2.

10.1.3.3.1.3 Test purpose

To verify that a CC entity in CC-state U9, "Mobile Terminating Call Confirmed", (if signalled by the network in previous SETUP message that it may alert) will either send a ALERTING message to its peer entity and enter state U7, or send a CONNECT message to its peer entity and enter U8.

10.1.3.3.1.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U9 by using table 10.1.3/2.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U9 by using a SETUP message containing signalling information element. (The state U9 is not a stable state in this case, and consequently it is not checked as an initial state.) If the UE supports immediate connect for the selected basic service (p = Y), it sends a CONNECT message and enters the state U8, connect request. Otherwise (p = N) the UE sends an ALERTING message and enters the state U7, call receiving. The SS checks by using the status enquiry procedure that the CC entity has entered its state as described.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
A11		->	CONNECT	p = Y
A12		<-	STATUS ENQUIRY	
A13		->	STATUS	cause 30#, state U8
B11		->	ALERTING	p = N
B12		<-	STATUS ENQUIRY	
B13		->	STATUS	cause 30#, state U7

Specific message contents:

None.

10.1.3.3.1.5 Test requirements

A CC entity in CC-state U9, "Mobile Terminating Call Confirmed", (if signalled by the network in previous SETUP message that it may alert) shall either send an ALERTING message and enter state U7, or send a CONNECT message and enter U8.

10.1.3.3.2 Incoming call / U9 mobile terminating call confirmed / DTCH assignment

10.1.3.3.2.1 Definition

The call control entity of the UE being in the state, U9, a radio bearer establishment procedure is performed for traffic channel. ~~This test is applicable for any equipment supporting at least one MT circuit switched basic service, for which immediate connect is not used.~~

10.1.3.3.2.2 Conformance requirement

1) A CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, shall send a ALERTING message and enter state U7.

References

TS 25.331 clause 8.2,1, TS 24.008 clause 5.2.2.7., TS 24.008 clause 5.2.2.3.2.

10.1.3.3.2.3 Test purpose

To verify that a CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, shall sends a ALERTING message and enters state U7.

10.1.3.3.2.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U9 by using table 10.1.3/4.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U9 (by using a SETUP message not containing the signal information element). The SS sends a RADIO BEARER SETUP for traffic channel to the UE. The UE shall respond with a RADIO BEARER SETUP COMPLETE message. The UE sends an ALERTING message and enters state U7, call received. The SS verifies by using the status enquiry procedure that the UE has entered the correct state.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Radio Bearer Setup Procedure	DTCH, See TS34.108
2	->		ALERTING	
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U7

Specific message contents:

None.

10.1.3.3.2.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed" shall send a ALERTING message and enter state U7.

10.1.3.3.3 Incoming call / U9 mobile terminating call confirmed / termination requested by the user

10.1.3.3.3.1 Definition

The call control entity of the UE being in the state, U9, the user requests for releasing of the call. ~~This test is applicable for any equipment supporting at least one MT circuit switched basic service for which immediate connection is not used and, in addition to this, the facility to send a DISCONNECT message in state U9.~~

10.1.3.3.3.2 Conformance requirement

1) A CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", upon request by the user to terminate shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

References

TS 24.007 clause 6.2.2., TS 24.008 clause 5.4.3.

10.1.3.3.3.3 Test purpose

To verify that a CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", upon request by the user to terminate will send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.3.3.3.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used;
- the UE supports user requested call clearing in the state U9.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U9 by using table 10.1.3/4.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U9 (by using a SETUP message not containing the signal information element). Then the user requests termination of the call, if possible. The UE sends a DISCONNECT message and enters state U11, disconnect request. The SS verifies by using the status enquiry procedure that the UE has entered the correct state.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				the UE is made to clear the call
2	->		DISCONNECT	
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.3.3.3.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.3.3.4 Incoming call / U9 mobile terminating call confirmed / DISCONNECT received

10.1.3.3.4.1 Definition

The call control entity of the UE being in the state, U9, a DISCONNECT message is received by the UE. ~~This test is applicable for any equipment supporting at least one MT circuit switched basic service, for which immediate connect is not used.~~

10.1.3.3.4.2 Conformance requirement

1) A CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", upon receipt of a DISCONNECT shall return a RELEASE message and enter the CC-state U19, "Release Request".

References

TS 24.008 clause 5.4.4.

10.1.3.3.4.3 Test purpose

To verify that a CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", upon receipt of a DISCONNECT returns a RELEASE message and enters the CC-state U19, "Release Request".

10.1.3.3.4.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U9 by using table 10.1.3/4.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U9. The SS sends a DISCONNECT message to the UE. The UE responds by sending a RELEASE message and enters state U19, release request. The SS verifies by using the status enquiry procedure that the UE has entered the correct state.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	DISCONNECT	
2		->	RELEASE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U19

Specific message contents:

None.

10.1.3.3.4.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U9, "UE Terminating Call Confirmed", shall return a RELEASE message and enter the CC-state U19, "Release Request".

10.1.3.3.5 Incoming call / U9 mobile terminating call confirmed / RELEASE received

10.1.3.3.5.1 Definition

The call control entity of the UE being in the state, U9, a RELEASE message is received by the UE. ~~This test is applicable for any equipment supporting at least one MT circuit switched basic service, for which immediate connect is not used.~~

10.1.3.3.5.2 Conformance requirement

1) A CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", upon receipt of a RELEASE shall return a RELEASE COMPLETE and enter the CC-state U0, "Null".

2) On returning to the idle mode the UE shall release the MM-connection and the CC-entities relating to the seven mobile terminating transaction identifiers shall be in CC-state U0, "Null".

References

Conformance requirement 1: TS 24.008 clause 5.4.4.

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 24.008 clause 8.3.

10.1.3.3.5.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", upon receipt of a RELEASE will return a RELEASE COMPLETE and enter the CC-state U0, "Null".

2) To verify that the UE on returning to the idle mode releases the MM-connection and that the CC-entities relating to the seven mobile terminating transaction identifiers are in CC-state U0, "Null".

10.1.3.3.5.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U9 by using table 10.1.3/4.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is

telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U9. The SS sends a RELEASE message to the UE. The UE responds by sending a RELEASE COMPLETE message and enters state U0, null. The SS verifies by using the status enquiry procedure that the UE has entered the correct state with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE	with cause "Normal, unspecified"
2		->	RELEASE COMPLETE	
3		<-	STATUS ENQUIRY	
4		->	RELEASE COMPLETE	cause 81# (invalid TI value)
5		SS		repeat steps 3-4 to cover all the transaction identifiers from 000...110
6		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
7		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.3.3.5.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U9, "UE Terminating Call Confirmed", shall return a RELEASE COMPLETE message.

After step 3 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.3.6 Incoming call / U9 mobile terminating call confirmed / lower layer failure

10.1.3.3.6.1 Definition

The call control entity of the UE being in the state, U9, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one MT circuit switched basic service, for which immediate connect is not used.~~

10.1.3.3.6.2 Conformance requirement

1) A CC entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", having detected a lower layer failure shall return to idle mode with the CC entities relating to the seven mobile terminating transaction identifiers in CC-state U0, "Null".

References

TS 24.008 clause 4.5.2.3., TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 24.008 clause 8.3.

10.1.3.3.6.3 Test purpose

To verify that a CC entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed", having detected a lower layer failure returns to idle mode with the CC entities relating to the seven mobile terminating transaction identifiers in CC-state U0, "Null".

10.1.3.3.6.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U9 by using table 10.1.3/4.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The UE is brought to the state U9. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure
2		SS		SS waits 20 s for the UE to return to listening to paging
3			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value)
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.3.3.6.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.3.7 Incoming call / U9 mobile terminating call confirmed / unknown message received

10.1.3.3.7.1 Definition

The call control entity of the UE being in the state, U9, an unknown message is received by the UE. ~~This test is applicable for any equipment supporting at least MT circuit switched basic service, for which immediate connect is not used.~~

10.1.3.3.7.2 Conformance requirement

1) A CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed" having received an unknown message from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.4.

10.1.3.3.7.3 Test purpose

To verify that a CC-entity of the UE in CC-state U9, "Mobile Terminating Call Confirmed" having received an unknown message from its peer entity returns a STATUS message.

10.1.3.3.7.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U9 by using table 10.1.3/4.

Test procedure

A MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U9. The SS sends a message with message type not defined for the protocol discriminator to the UE. The UE shall respond with a STATUS message, and finally the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	unknown message	message type not defined for PD
2		->	STATUS	cause 97#, state U9
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U9

Specific message contents:

None.

10.1.3.3.7.5 Test requirements

After step 1 a CC-entity of the UE in CC-state U9, "UE Terminating Call Confirmed", shall return a STATUS message.

10.1.3.4 Incoming call / U7 call received

10.1.3.4.1 Incoming call / U7 call received / call accepted

10.1.3.4.1.1 Definition

The call control entity of the UE being in the state, U7, a user accepts the incoming call. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service for which immediate connect is not used.~~

10.1.3.4.1.2 Conformance requirement

1) A CC entity of a UE in CC-state U7, "Call Received", upon a user accepting the incoming call, shall send a CONNECT message to its peer entity and enter the CC-state U8, "Connect Request".

References

TS 24.007 clause 6.2.2., TS 24.008 clause 5.2.2.5.

10.1.3.4.1.3 Test purpose

To verify that a CC entity of a UE in CC-state U7, "Call Received", upon a user accepting the incoming call, shall send a CONNECT message to its peer entity and enter the CC-state U8, "Connect Request"

10.1.3.4.1.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U7 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U7. The user accepts the incoming call. The UE sends a CONNECT message. The SS checks by using the status enquiry procedure that the CC entity has entered state U8, connect request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				the UE is made to accept the call by the user
2	->		CONNECT	
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U8

Specific message contents:

None.

10.1.3.4.1.5 Test requirements

After step 1 a CC entity of a UE in CC-state U7, "Call Received", shall send a CONNECT message and enter the CC-state U8, "Connect Request".

10.1.3.4.2 Incoming call / U7 call received / termination requested by the user

10.1.3.4.2.1 Definition

The call control entity of the UE being in the state, U7, a user requests to terminate incoming call. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service for which immediate connect is not used.~~

10.1.3.4.2.2 Conformance requirement

1) A CC entity of a UE in CC-state U7, "Call Received", upon request by the user to terminate shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

References

TS 24.007 clause 6.2.2., TS 24.008 clause 5.4.3.

10.1.3.4.2.3 Test purpose

To verify that a CC entity of a UE in CC-state U7, "Call Received", upon request by the user to terminate will send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.3.4.2.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;

- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U7 by using table10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U7. The user initiates clearing the incoming call. The UE sends a DISCONNECT message. The SS checks by using the status enquiry procedure that the CC entity has entered state U11, disconnect request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				the UE is made to terminate/reject the call
2		->	DISCONNECT	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.3.4.2.5 Test requirements

After step 1 a CC entity of a UE in CC-state U7, "Call Received", shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.3.4.3 Incoming call / U7 call received / DISCONNECT received

10.1.3.4.3.1 Definition

The call control entity of the UE being in the state, U7, a DISCONNECT message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service for which immediate connect is not used.~~

10.1.3.4.3.2 Conformance requirement

1) A CC entity of a UE in CC-state U7, "Call Received", upon receipt of a DISCONNECT with a progress indicator indicating in-band information from network, if a DTCH was not assigned, shall return a RELEASE message and enter the CC-state U19, "Release Request".

References

TS 24.008 clause 5.4.4.

10.1.3.4.3.3 Test purpose

To verify that a CC entity of a UE in CC-state U7, "Call Received", upon receipt of a DISCONNECT with a progress indicator indicating in-band information from network, if a DTCH was not assigned, returns a RELEASE message and enters the CC-state U19, "Release Request".

10.1.3.4.3.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U7 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U7. The SS sends a DISCONNECT message. The UE responds with a RELEASE message. The SS checks by using the status enquiry procedure that the CC entity has entered state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	DISCONNECT	(note)
2		->	RELEASE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U19

Specific message contents:

NOTE: With a progress indicator indicating in-band information; Progress Indicator, Progress Description #8.

10.1.3.4.3.5 Test requirements

After step 1 a CC entity of a UE in CC-state U7, "Call Received", if a DTCH was not assigned, shall return a RELEASE message and enter the CC-state U19, "Release Request".

10.1.3.4.4 Incoming call / U7 call received / RELEASE received

10.1.3.4.4.1 Definition

The call control entity of the UE being in the state, U7, a RELEASE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service for which immediate connect is not used.~~

10.1.3.4.4.2 Conformance requirement

1) A CC entity of a UE in CC-state U7, "Call Received", upon receipt of a RELEASE shall return a RELEASE COMPLETE and enter the CC-state U0, "Null".

2) On returning to the idle mode the UE shall release the MM-connection and the CC-entities relating to the seven mobile terminating transaction identifiers shall be in CC-state U0, "Null".

References

Conformance requirement 1: TS 24.008 clause 5.4.4.

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2.

10.1.3.4.4.3 Test purpose

1) To verify that a CC entity of a UE in CC-state U7, "Call Received", upon receipt of a RELEASE will return a RELEASE COMPLETE and enter the CC-state U0, "Null".

2) To verify that the UE on returning to the idle mode releases the MM-connection and that the CC-entities relating to the seven mobile terminating transaction identifiers are in CC-state U0, "Null".

10.1.3.4.4.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U7 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U7. The SS sends a RELEASE message. The UE responds with a RELEASE COMPLETE message. The SS checks by using the status enquiry procedure that the CC entity has entered state U0, null, with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE	with cause "Normal, unspecified"
2		->	RELEASE COMPLETE	
3		<-	STATUS ENQUIRY	
4		->	RELEASE COMPLETE	cause 81# (invalid TI value)
5		SS		repeat steps 3-4 to cover all the transaction identifiers from 000...110
6		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
7		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.3.4.4.5 Test requirements

After step 1 a CC entity of a UE in CC-state U7, "Call Received", shall return a RELEASE COMPLETE message.

After step 3 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.4.5 Incoming call / U7 call received / lower layer failure

10.1.3.4.5.1 Definition

The call control entity of the UE being in the state, U7, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service for which immediate connect is not used.~~

10.1.3.4.5.2 Conformance requirement

1) A CC entity of a UE in CC-state U7, "Call Received", having detected a lower layer failure shall return to idle mode with the CC entities relating to the seven mobile terminating transaction identifiers in CC-state U0, "Null".

References

TS 24.008 clause 4.5.2.3., TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2., TS 24.008 clause 8.3.

10.1.3.4.5.3 Test purpose

To verify that a CC entity of a UE in CC-state U7, "Call Received", having detected a lower layer failure returns to idle mode with the CC entities relating to the seven mobile terminating transaction identifiers in CC-state U0, "Null".

10.1.3.4.5.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U7 by using table 10.1.3/2.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The UE is brought to the state U7. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure
2		SS		SS waits 20 s for the UE to return to listening to paging
3			~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value)
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.3.4.5.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.4.6 Incoming call / U7 call received / unknown message received

10.1.3.4.6.1 Definition

The call control entity of the UE being in the state, U7, an unknown message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service for which immediate connect is not used.~~

10.1.3.4.6.2 Conformance requirement

1) A CC entity of a UE in CC-state U7, "Call Received", having received an unknown message from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.4.

10.1.3.4.6.3 Test purpose

To verify that a CC entity of a UE in CC-state U7, "Call Received", having received an unknown message from its peer entity returns a STATUS message.

10.1.3.4.6.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U7 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U7. The SS sends a message with message type not defined for the protocol discriminator to the UE. The UE shall respond with a STATUS message, and finally the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	unknown message	message type not defined for PD
2		->	STATUS	cause 97#, state U7
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U7

Specific message contents:

None.

10.1.3.4.6.5 Test requirements

After step 1 a CC entity of a UE in CC-state U7, "Call Received", shall return a STATUS message.

10.1.3.4.7 Incoming call / U7 call received / DTCH assignment

10.1.3.4.7.1 Definition

The call control entity of the UE being in the state, U7, a radio bearer establishment procedure is performed for traffic channel. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service for which immediate connect is not used.~~

10.1.3.4.7.2 Conformance requirement

1) A CC entity of a UE in CC-state U7, "Call Received", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, shall stay in CC-state U7.

References

TS25.331 clause 8.2.1, TS 24.008 clause 5.2.2.7.

10.1.3.4.7.3 Test purpose

To verify that a CC entity of a UE in CC-state U7, "Call Received", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, stays in CC-state U7.

10.1.3.4.7.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U7 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected basic service is telephony. If necessary, the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U7. The SS sends a RADIO BEARER SETUP for traffic channel to the UE. The UE shall respond with a RADIO BEARER SETUP COMPLETE message. The SS verifies by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Radio Bearer Setup Procedure	DTCH, See TS34.108
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U7

Specific message contents:

None.

10.1.3.4.7.5 Test requirements

After step 1 the CC state U7, "Call Received", shall remain unchanged.

10.1.3.4.8 Incoming call / U7 call received / RELEASE COMPLETE received

10.1.3.4.8.1 Definition

The call control entity of the UE being in the state, U7, the call is cleared by a RELEASE COMPLETE message sent by the SS. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service, for which immediate connect is not used.~~

10.1.3.4.8.2 Conformance requirement

1) A CC entity of the UE in CC-state U7, "call received", upon receipt of a RELEASE COMPLETE message with valid cause value, shall enter CC state U0, "Null".

2) On returning to idle mode, the CC entities relating to the seven mobile terminating transaction identifiers shall be in state U0, "Null".

References

Conformance requirement 1: TS 24.008, clause 5.4.2, TS 24.008, clause 5.4.4.

Conformance requirement 2: TS 24.008, clause 5.4.4.1.3.

10.1.3.4.8.3 Test purpose

1) To verify that a CC entity of the UE in CC-state U7, "Call received", upon receipt of a RELEASE COMPLETE message with valid cause value, enters CC state U0, "Null".

2) To verify that in returning to idle mode, the CC entities relating to the seven mobile terminating transaction identifiers are in state U0, "Null".

10.1.3.4.8.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;

  MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U7 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE and for which the UE does not use immediate connection; if the UE supports MT telephony without immediate connection, the selected service is telephony. If necessary, the UE is configured for that basic service. The mobile terminated call is initiated. the CC entity of the UE is brought to U7. The SS sends a RELEASE COMPLETE message to the UE. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE COMPLETE	note 1
2		<-	STATUS ENQUIRY	
3		->	RELEASE COMPLETE	cause 81# (invalid TI value), note 2
4		SS		repeat steps 2-3 to cover all the transaction identifiers from 000...110
5		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
6		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

NOTE 1: With the cause value chosen arbitrarily.

NOTE 2: TI flag has the value indicating the SS as a originator of the call.

10.1.3.4.8.5 Test requirements

After step 2 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.5 Incoming call / U8 connect request

10.1.3.5.1 Incoming call / U8 connect request / CONNECT acknowledged

10.1.3.5.1.1 Definition

The call control entity of the UE being in the state, U8, a CONNECT ACKNOWLEDGE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.1.2 Conformance requirement

A CC entity of a UE in CC-state U8, "Connect Request", upon receipt of CONNECT ACKNOWLEDGE shall enter the CC-state U10, "Call Active".

References

TS 24.008 clause 5.2.2.6.

10.1.3.5.1.3 Test purpose

To verify that a CC entity of a UE in CC-state U8, "Connect Request", upon receipt of CONNECT ACKNOWLEDGE shall enter the CC-state U10, "Call Active".

10.1.3.5.1.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/2.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U8 (if the UE uses immediate connection for the selected basic service then p = Y, otherwise p = N). The SS sends a CONNECT ACKNOWLEDGE message. The SS checks by using the status enquiry procedure that the CC entity of the UE has entered state U10, active.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
A1			Radio Bearer Setup Procedure	p = Y, See TS34.108
2		<-	CONNECT ACKNOWLEDGE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U10

Specific message contents:

None.

10.1.3.5.1.5 Test requirements

After step 2 a CC entity of a UE in CC-state U8, "Connect Request", shall enter the CC-state U10, "Call Active".

10.1.3.5.2 Incoming call / U8 connect request / timer T313 time-out

10.1.3.5.2.1 Definition

The call control entity of the UE being in the state, U8, if no response is then received from the SS, timer T313 expires at the UE side. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.2.2 Conformance requirement

A CC entity of a UE in CC-state U8, "Connect Request", having waited for a reasonable length of time (e.g. expiry of timer T313) without receiving the appropriate protocol message to complete the incoming call, shall initiate the clearing of that incoming call by sending the CC message DISCONNECT and enter the CC-state U11, "Disconnect Request".

If an UE disconnects too early then, in the case of very late assignment of a traffic channel, systematic waste of radio resources may occur.

References

TS 24.008 clause 5.2.2.6., TS 24.008 clause 5.4.3.

10.1.3.5.2.3 Test purpose

To verify that a CC entity of a UE in CC-state U8, "Connect Request", having waited for a reasonable length of time (e.g. expiry of timer T313) without receiving the appropriate protocol message to complete the incoming call, shall initiate the clearing of that incoming call by sending the CC message DISCONNECT and enter the CC-state U11, "Disconnect Request"

10.1.3.5.2.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/2.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U8 (if the UE uses immediate connection for the selected basic service then p = Y, otherwise p = N). The T313 expires at the UE and the UE sends a DISCONNECT message and enters state U11, disconnect request. The SS checks by using the status enquiry procedure that the UE has entered the correct state.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
A1			Radio Bearer Setup Procedure	p = Y, See TS34.108
2	->		DISCONNECT	Shall not be sent before 15 seconds after entry into state U8. But, shall be sent before 1,1 * T313 after entry into state U8.
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.3.5.2.5 Test requirements

Upon expiry of timer T313 without receiving the appropriate protocol message to complete the incoming call a CC entity of a UE in CC-state U8, "Connect Request", shall initiate the clearing of that incoming call by sending a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.3.5.3 Incoming call / U8 connect request / termination requested by the user

10.1.3.5.3.1 Definition

The call control entity of the UE being in the state, U10, the user requests for releasing of the call. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.3.2 Conformance requirement

1) A CC entity of a UE in CC-state U8, "Connect Request", upon request by the user to terminate shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

References

TS 24.007 clause 6.2.2., TS 24.008 clause 5.4.3.

10.1.3.5.3.3 Test purpose

To verify that a CC entity of a UE in CC-state U8, "Connect Request", upon request by the user to terminate will send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.3.5.3.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;
- MT circuit switched basic services for which immediate connect is not used.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/2.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U8 (if the UE uses immediate connection for the selected basic service then p = Y, otherwise p = N). Then the user requests termination of the call. The UE sends a DISCONNECT message and enters state U11, disconnect request. The SS verifies by using the status enquiry procedure that the UE has entered the correct state.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
A1			Radio Bearer Setup Procedure	p = Y, See TS34.108
2				the user requests to clear the call
3		->	DISCONNECT	
4		<-	STATUS ENQUIRY	
5		->	STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.3.5.3.5 Test requirements

After step 2 a CC entity of a UE in CC-state U8, "Connect Request", shall send a DISCONNECT message and enter the CC-state U11, "Disconnect Request".

10.1.3.5.4 Incoming call / U8 connect request / DISCONNECT received with in-band information

10.1.3.5.4.1 Definition

The call control entity of the UE being in the state, U8, a DISCONNECT message indicating availability of in band information is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.4.2 Conformance requirement

A CC entity of a UE in CC-state U8, "Connect Request", upon receipt of a DISCONNECT with progress indicator #8 shall enter CC-state U12, if the traffic channel is in speech mode. If the DTCH is not in speech mode, the UE shall send a RELEASE message and enter CC-state U19.

References

TS 24.008 clause 5.4.4., TS 24.008 clause 5.5.1.

10.1.3.5.4.3 Test purpose

To verify that a CC entity of a UE in CC-state U8, "Connect Request", upon receipt of a DISCONNECT with progress indicator #8 enters CC-state U12, if the traffic channel is in speech mode, and that the UE sends a RELEASE message and enters CC-state U19 if the DTCH is not in speech mode.

10.1.3.5.4.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/4.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U8. The SS sends a DISCONNECT message containing indication of in-band information availability to the UE. If channel mode is speech, the UE enters state U12, disconnect indication. If channel mode is not speech, the UE sends a RELEASE message and enters state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		DISCONNECT	(note)
A2	<-		STATUS ENQUIRY	DTCH in speech mode:
A3	->		STATUS	cause 30#, state U12
B2	->		RELEASE	DTCH is not in speech mode:
B3	<-		STATUS ENQUIRY	
B4	->		STATUS	cause 30#, state U19

Specific message contents:

NOTE: With a progress indicator indicating in-band information; Progress Indicator, Progress description #8.

10.1.3.5.4.5 Test requirements

After step 1 a CC entity of a UE in CC-state U8, "Connect Request", shall enter CC-state U12, if the traffic channel is in speech mode. If the DTCH is not in speech mode, the UE shall send a RELEASE message and enter CC-state U19.

10.1.3.5.5 Incoming call / U8 connect request / DISCONNECT received without in-band information

10.1.3.5.5.1 Definition

The call control entity of the UE being in the state, U8, a DISCONNECT message is received by the UE. The DISCONNECT message does not contain indication of in-band information availability. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.5.2 Conformance requirement

1) A CC entity of a UE in CC-state U8, "Connect Request", upon receipt of a DISCONNECT without progress indicator, shall return a RELEASE message and enter the CC-state U19, "Release Request".

References

TS 24.008 clause 5.4.4., TS 24.008 clause 5.4.4.1.2.

10.1.3.5.5.3 Test purpose

To verify that a CC entity of a UE in CC-state U8, "Connect Request", upon receipt of a DISCONNECT without progress indicator, returns a RELEASE message and enters the CC-state U19, "Release Request".

10.1.3.5.5.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/4.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U8. The SS sends a DISCONNECT message not containing indication of in-band information availability to the UE. The UE shall respond with a RELEASE message. The SS checks by using the status enquiry procedure that the CC entity of the UE has entered the state U19, release request.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	DISCONNECT	(note)
2		->	RELEASE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U19

Specific message contents:

NOTE: Without a progress indicator indicating in-band information.

10.1.3.5.5.5 Test requirements

After step 1 a CC entity of a UE in CC-state U8, "Connect Request", shall return a RELEASE message and enter the CC-state U19, "Release Request".

10.1.3.5.6 Incoming call / U8 connect request / RELEASE received

10.1.3.5.6.1 Definition

The call control entity of the UE being in the state, U8, a RELEASE message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.6.2 Conformance requirement

1) A CC entity of a UE in CC-state U8, "Connect Request", upon receipt of a RELEASE shall return a RELEASE COMPLETE and enter the CC-state U0, "Null".

2) On returning to the idle mode the UE shall release the MM-connection and the CC-entities relating to the seven mobile terminating transaction identifiers shall be in CC-state U0, "Null".

References

Conformance requirement 1: TS 24.008 clause 5.4.4.

Conformance requirement 2: TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2.

10.1.3.5.6.3 Test purpose

1) To verify that a CC entity of a UE in CC-state U8, "Connect Request", upon receipt of a RELEASE will return a RELEASE COMPLETE and enter the CC-state U0, "Null".

2) To verify that the UE on returning to the idle mode releases the MM-connection and that the CC-entities relating to the seven mobile terminating transaction identifiers are in CC-state U0, "Null".

10.1.3.5.6.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U8. The SS sends a RELEASE message. The UE responds with a RELEASE COMPLETE message. The SS checks by using the status enquiry procedure that the CC entity has entered state U0, null, with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	RELEASE	with cause "Normal, unspecified"
2		->	RELEASE COMPLETE	
3		<-	STATUS ENQUIRY	
4		->	RELEASE COMPLETE	cause 81# (invalid TI value)
5		SS		repeat steps 3-4 to cover all the transaction identifiers from 000...110
6		<-	RRC CONNECTION RELEASE	the main signalling link shall be released.
7		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.3.5.6.5 Test requirements

After step 1 a CC entity of a UE in CC-state U8, "Connect Request", shall return a RELEASE COMPLETE message.

After step 3 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.5.7 Incoming call / U8 connect request / lower layer failure

10.1.3.5.7.1 Definition

The call control entity of the UE being in the state, U8, a lower layer failure is accomplished at the UE and consequently, communication at layer 3 level with the peer entity is terminated. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.7.2 Conformance requirement

1) A CC entity of a UE in CC-state U8, "Connect Request", having detected a lower layer failure shall return to idle mode with the CC entities relating to the seven mobile terminating transaction identifiers in CC-state U0, "Null".

References

TS 24.008 clause 4.5.2.3., TS 24.008 clause 4.5.3., TS 24.008 clause 5.5.3.2.

10.1.3.5.7.3 Test purpose

To verify that a CC entity of a UE in CC-state U8, "Connect Request", having detected a lower layer failure returns to idle mode with the CC entities relating to the seven mobile terminating transaction identifiers in CC-state U0, "Null".

10.1.3.5.7.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The UE is brought to the state U8. The SS generates a lower layer failure at the UE. The SS waits long enough to enable the UE to return to idle state listening to paging, and then pages UE to create RRC connection. Finally, the SS will check the state of the UE by using STATUS ENQUIRY with the relevant transaction identifiers.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		SS generates lower layer failure
2		SS		SS waits 20 s for the UE to return to listening to paging
3	<-		~~SS Initiated Establishment of RRC Connection~~Mobile terminated establishment of Radio Resource Connection	See TS34.108
4	<-		STATUS ENQUIRY	
5	->		RELEASE COMPLETE	cause 81# (invalid TI value)
6		SS		repeat steps 4-5 to cover all the transaction identifiers from 000...110
7	<-		RRC CONNECTION RELEASE	the main signalling link shall be released.
8	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.3.5.7.5 Test requirements

After step 4 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.1.3.5.8 Incoming call / U8 connect request / DTCH assignment

10.1.3.5.8.1 Definition

The call control entity of the UE being in the state, U8, a radio bearer establishment procedure is performed for traffic channel. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.8.2 Conformance requirement

1) A CC entity of a UE in CC-state U8, "Connect Request", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, shall stay in the CC-state U8.

References

TS 25.331 clause 8.2.1., TS 24.008 clause 5.2.2.7.

10.1.3.5.8.3 Test purpose

To verify that a CC entity of a UE in CC-state U8, "Connect Request", when a traffic channel is allocated by the network performing the radio bearer establishment procedure, stays in the CC-state U8.s

10.1.3.5.8.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U8. The SS sends a RADIO BEARER SETUP for traffic channel to the UE. The UE shall respond with a RADIO BEARER SETUP COMPLETE message. The SS verifies by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Radio Bearer Setup Procedure	DTCH, See TS34.108
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U8

Specific message contents:

None.

10.1.3.5.8.5 Test requirements

After step 1 the CC-state U8, "Connect Request", shall remain unchanged.

10.1.3.5.9 Incoming call / U8 connect request / unknown message received

10.1.3.5.9.1 Definition

The call control entity of the UE being in the state, U8, an unknown message is received by the UE. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.3.5.9.2 Conformance requirement

1) A CC entity of a UE in CC-state U8, "Connect Request", having received an unknown message from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.4.

10.1.3.5.9.3 Test purpose

To verify that a CC entity of a UE in CC-state U8, "Connect Request", having received an unknown message from its peer entity returns a STATUS message.

10.1.3.5.9.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

The UE is brought into the state U8 by using table 10.1.3/1.

Test procedure

An MT circuit switched basic service is selected that is supported by the UE; if the UE supports MT telephony, the selected basic service is telephony. If necessary the UE is configured for that basic service. Then a mobile terminated call is initiated. The CC entity of the UE is brought to the state U8. The SS sends a message with message type not defined for the protocol discriminator to the UE. The UE shall respond with a STATUS message, and finally the SS checks by using the status enquiry procedure that the state of the CC entity has remained unchanged.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	unknown message	message type not defined for PD
2		->	STATUS	cause 97#, state U8
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U8

Specific message contents:

None.

10.1.3.5.9.5 Test requirements

After step 1 a CC entity of a UE in CC-state U8, "Connect Request", shall return a STATUS message.

10.1.4 In call functions

10.1.4.1 In-call functions / DTMF information transfer

10.1.4.1.1 In-call functions / DTMF information transfer / basic procedures

10.1.4.1.1.1 Definition

Dual Tone Multi Frequency (DTMF) is an inband one out of four plus one out of four signalling system primarily used from terminal instruments in telecommunication networks. ~~This test is applicable for any equipment supporting bearer capability for speech.~~

10.1.4.1.1.2 Conformance requirement

1) An UE supporting the Mobile originating DTMF protocol control procedure, having a CC entity for speech in state U10, "Active": when made to send a DTMF tone, shall send a START DTMF message on the correct DCCH.

2) An UE supporting the Mobile originating DTMF protocol control procedure, having a CC entity for speech in state U10, "Active": when made to send a DTMF tone (the corresponding IA5 character being selected from

among the ones supported), shall send a START DTMF message specifying the correct IA5 character in the "keypad information" field of the keypad facility information element.

References

TS 24.008 clause 5.5.7.

10.1.4.1.1.3 Test purpose

1) To verify that an UE supporting the Mobile originating DTMF protocol control procedure, having a CC entity for speech in state U10, "Active": when made to send a DTMF tone, sends a START DTMF message on the correct DCCH.

2) To verify that an UE supporting the Mobile originating DTMF protocol control procedure, having a CC entity for speech in state U10, "Active": when made to send a DTMF tone (the corresponding IA5 character being selected from among the ones supported), sends a START DTMF message specifying the correct IA5 character in the "keypad information" field of the keypad facility information element.

10.1.4.1.1.4 Method of test

Related ICS/IXIT statements

- supported teleservices;
- supported character set (e.g. 0-9, #, *, A, B, C, D);
- if and how DTMF tone is indicated to the user.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is brought into the state U10 “Active” for speech by using Generic call setup procedure for mobile originating circuit switched call defined in TS34.108.

Test procedure

The UE being in the call active state, a user causes a DTMF tone to be generated e.g. by depression of a key in the UE. A DTMF digit corresponding to the digit indicated by the user is sent in a START DTMF message by the UE. The SS will return a START DTMF ACKNOWLEDGE message to the UE. This acknowledgement may be used in the UE to generate an indication as a feedback for a successful transmission. Then the user indicates that the DTMF sending should cease e.g. by releasing the key. The UE will send a STOP DTMF message to the network which is acknowledged with STOP DTMF ACKNOWLEDGE by the SS.

The sequence described above is repeated for each of the applicable characters 0-9, #, *, A, B, C, and D.

Then a case of rejecting a DTMF tone is tested and the state of the UE is verified.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	->		START DTMF	the user causes DTMF tone to be generated
		SS		the SS will verify that the transmitted information corresponds to the digit pressed
2	<-		START DTMF ACKNOWLEDGE	possible indication of a DTMF tone depending the ICS/IXIT statements
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U10
5	->		STOP DTMF	
6	<-		STOP DTMF ACKNOWLEDGE	the DTMF tone indication shall be stopped
7				the steps 1-4 shall be repeated for each of the applicable characters 0-9, #, *, A, B, C, D.
8	<-		STATUS ENQUIRY	
9	->		STATUS	cause 30#, state U10
10	->		START DTMF	
11	<-		START DTMF REJECT	
12	<-		STATUS ENQUIRY	
13	->		STATUS	cause 30#, state U10

Specific message contents:

None.

10.1.4.1.1.5 Test requirements

Upon a user making to send a DTMF tone a CC entity for speech in the CC state U10, "Active", shall send a START DTMF message on the DCCH to SS.

The SS will verify that the transmitted information corresponds to the digit pressed in the UE.

After step 7 (successful DTMF transmission) the CC-state U10, "Active", shall remain unchanged.

After step 11 (unsuccessful DTMF transmission) the CC-state U10, "Active", shall remain unchanged.

10.1.4.2 In-call functions / user notification

User notification procedure allows the network to notify a UE of any call-related event during the "active" state of a call. It also may allow a UE to notify the remote user of any appropriate call-related event during the "active" state of a call by sending a NOTIFY message containing a notification indicator to the network. No state change occurs at any of the interface sides during this procedure.

10.1.4.2.1 In-call functions / User notification / UE terminated

10.1.4.2.1.1 Definition

This is a case for testing user notification procedure terminated by the user equipment. ~~The test is applicable for those equipments supporting at least one circuit switched basic service.~~

10.1.4.2.1.2 Conformance requirement

1) A CC entity of a UE in CC-state U10, "active", upon receiving of a NOTIFY message shall remain in the active state.

References

TS 24.008 clause 5.3.1.

10.1.4.2.1.3 Test purpose

To verify that a CC entity of a UE in CC-state U10, "active", upon receiving of a NOTIFY message remains in the active state.

10.1.4.2.1.4 Method of test

Related ICS/IXIT statements

- supported circuit switched basic services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state “idle, updated” with valid TMSI and CKSN.

The UE is brought into the state U10 “Active” by using Generic call setup procedure for mobile originating circuit switched calls defined in TS34.108.

Test procedure

The UE being in the call active state, the SS will send a NOTIFY message to the UE. The state of the UE is checked after that.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		NOTIFY	
2	<-		STATUS ENQUIRY	
3	->		STATUS	cause 30#, state U10

Specific message contents:

None.

10.1.4.2.1.5 Test requirements

After step 1 a CC entity of the UE in the CC-state U10, "active", shall remain in the active state.

10.1.4.3 In-call functions / channel changes

The two following test cases are for testing some elementary radio resource level procedures during an active state of a call to ensure call maintenance also during Hard handover.

10.1.4.3.1 In-call functions / channel changes / a successful channel change in active state/ Hard handover

10.1.4.3.1.1 Definition

This is a case to test a change of the frequency of a physical channel during active state of a call. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.4.3.1.2 Conformance requirement

1) The UE being in the call active state after having successful completed a physical channel reconfiguration, shall remain in the call active state.

References

TS 24.008 clause 5.3.4.3.2, and TS 25.331 clause 8.3.5.

10.1.4.3.1.3 Test purpose

To verify that the UE being in the call active state after having successful completed a physical channel reconfiguration remains in the call active state.

10.1.4.3.1.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state “idle, updated” with valid TMSI and CKSN.

The UE is brought into the state U10 “Active” by using Generic call setup procedure for mobile originating circuit switched calls defined in TS34.108.

Test procedure

The UE being in the call active state, the SS initiated physical channel reconfiguration procedure causing an intracell change of channel by sending a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The UE performs physical channel reconfiguration procedure and after the main signalling link is successfully established, the UE returns a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using AM RLC. The state of the UE is then checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	PHYSICAL CHANNEL RECONFIGURATION	
2		->	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
3		<-	STATUS ENQUIRY	
4		->	STATUS	cause 30#, state U10

Specific message contents:

None.

10.1.4.3.1.5 Test requirements

The UE being in the call active state after having successful completed a physical channel reconfiguration, shall remain in the call active state.

10.1.4.3.2 In-call functions / channel changes / an unsuccessful channel change in active mode/Hard handover

10.1.4.3.2.1 Definition

This is a case to test an unsuccessful change of the frequency of a physical channel during active state of a call. ~~This test is applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

10.1.4.3.2.2 Conformance requirement

1) The UE, when returning to the old channel after physical channel reconfiguration failure, shall remain in the call active state.

References

TS 24.008 clause 5.3.4.3.

10.1.4.3.2.3 Test purpose

To verify that the UE, when returning to the old channel after physical channel reconfiguration failure, will remain in the call active state.

10.1.4.3.2.4 Method of test

Related ICS/IXIT statements

- supported MT circuit switched basic services;

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state “idle, updated” with valid TMSI and CKSN.

The UE is brought into the state U10 “Active” by using Generic call setup procedure for mobile originating circuit switched calls defined in TS34.108.

Test procedure

The SS sends a PHYSICAL CHANNEL RECONFIGURATION message, but does not activate the assigned physical channel. The UE shall attempt try to activate the new channel (this is not verified) and shall then reactivate the "old" channel. The UE shall send a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and shall set the cause value in IE "failure cause" to "physical channel failure". The state of the UE is then checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<-	PHYSICAL CHANNEL RECONFIGURATION	The UE attempts and fails to re-configure the physical channel.
2	->		PHYSICAL CHANNEL RECONFIGURATION FAILURE	NOTE
3		<-	STATUS ENQUIRY	
4	->		STATUS	cause 30#, state U10

Specific message contents:

NOTE: With the cause value "physical channel failure".

10.1.4.3.2.5 Test requirements

The UE being in the call active state after physical channel reconfiguration failure, shall remain in the call active state.

10.1.4.4 In-call functions / UE terminated in-call modification

10.1.4.4.1 In-call functions / UE terminated in-call modification / modify when new mode is not supported

10.1.4.4.1.1 Definition

This is to test a special case of a in-call modification procedure, in which the new mode is not supported (and consequently not one of those negotiated and agreed during the establishment phase of the call). ~~This test is applicable for any equipment supporting at least one circuit switched basic service.~~

10.1.4.4.1.2 Conformance requirement

1) In the case that the UE supports the network originated in-call modification procedure, the UE after having received a MODIFY message with a new mode which is not the actual one and cannot be supported by the UE shall reject it by sending a MODIFY REJECT message or a STATUS message.

2) In the case that the UE does not support the network originated in-call modification procedure, the UE shall, when receiving a MODIFY message, treat the message as unknown and respond with a STATUS message.

References

1) TS 24.008 clauses 5.3.4.3.4.2 and 5.3.4.4.

2) TS 24.008 clause 5.3.4.

10.1.4.4.1.3 Test purpose

1) To verify that an UE supporting the network originated in-call modification procedure, after having received a MODIFY message with a new mode which is not the actual one and cannot be supported by the UE, rejects it by sending a MODIFY REJECT.

2) To verify that an UE not supporting the network originated in-call modification procedure, after having received a MODIFY message, responds with a STATUS message.

10.1.4.4.1.4 Method of test

Related ICS/IXIT statements

- supported circuit switched basic services;
- the UE supports the network originated in-call modification procedure (p = Yes/No).

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state “idle, updated” with valid TMSI and CKSN.

The UE is brought into the state U10 “Active” by using Generic call setup procedure for mobile originating circuit switched calls defined in TS34.108.

Test procedure

The UE being in the call active state, the SS initiates in-call modification procedure by sending a MODIFY message with new mode different from actual mode and one of those not supported by the UE. The UE either returns a MODIFY REJECT message with the old bearer capability or a STATUS message with reject cause #97, depending on the ICS/IXIT statement. The state of the UE is then checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<-		MODIFY	with new mode different from actual one
2a	->		MODIFY REJECT	with the old call mode included OR, p = Yes
2b	->		STATUS	cause #97, state U10, p = No
3 4	<- ->		STATUS ENQUIRY STATUS	 cause 30#, state U10

Specific message contents:

None.

10.1.4.4.1.5 Test requirements

In the case that the UE supports the network originated in-call modification procedure, the UE after having received a MODIFY message with a new mode which is not the actual one and cannot be supported by the UE shall reject it by sending a MODIFY REJECT message and shall remain in the call active state.

In the case that the UE does not support the network originated in-call modification procedure, the UE shall, when receiving a MODIFY message, treat the message as unknown and respond with a STATUS message. The UE shall remain in the call active state.

10.1.4.5 In-call functions / UE originated in-call modification

10.1.4.5.1 In-call functions / UE originated in-call modification / a successful case of modifying

10.1.4.5.1.1 Definition

This test is to test a successful case of in-call modification, which is triggered by the calling tone identification (CNG) received by the UE. ~~This test is applicable for any equipment supporting any dual mode bearer capability service (Teleservice 61 - Alternate Speech/Group 3 fax).~~

10.1.4.5.1.2 Conformance requirement

1) The procedure shall be initiated by the UE in the "active" state of the call. It shall send a MODIFY message including the new mode to be changed to; and enter the "mobile originating modify" state. The new mode given in the MODIFY message shall be one of those already negotiated and agreed during the establishment phase of the call. The UE shall stop sending user information according to the old mode and enter the state U26 "Mobile Originating Modify".

2) Upon receipt of the MODIFY COMPLETE message the UE shall start sending channel information according to the new call mode and enter the "active" state.

References

Conformance requirement 1: TS 24.008 clause 5.3.4.3.1.

Conformance requirement 2: TS 24.008 clause 5.3.4.3.2.

10.1.4.5.1.3 Test purpose

1) To verify that the procedure is initiated by the UE in the "active" state of the call. It sends a MODIFY message including the new mode to be changed to; and enters the "mobile originating modify" state. The new mode given in the MODIFY message is one of those already negotiated and agreed during the establishment phase of the call. The MODIFY originating side stops sending user information.

2) To verify that upon receipt of the MODIFY COMPLETE message the UE starts sending channel information according to the new call mode and enters the "active" state.

10.1.4.5.1.4 Method of test

Related ICS/IXIT statements

- a way to activate a dual mode call;
- a way to activate in-call modification;
- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with the new mode to the SS and the state of the UE is checked. The channel mode is modified with the RADIO BEARER RECONFIGURATION message including the appropriate channel mode for the new service. The SS then returns a MODIFY COMPLETE message. The state of the UE is then checked.

NOTE: ICM can be initiated by manual intervention at the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is made to initiate a dual mode call
2	->		RRC CONNECTION REQUEST	
3	<-		RRC CONNECTION SETUP	
4	->		RRC CONNECTION SETUP COMPLETE	
5	->		CM SERVICE REQUEST	
6	<-		AUTHENTICATION REQUEST	
7	->		AUTHENTICATION RESPONSE	
8	<-		SECURITY MODE COMMAND	
9	->		SECURITY MODE COMPLETE	
10	->		SETUP	as specified in specific message contents
11	<-		CALL PROCEEDING	as specified in specific message contents
12			Radio Bearer Setup Procedure	See TS34.108
13	<-		ALERTING	
14	<-		CONNECT	
15	->		CONNECT ACKNOWLEDGE	
16	->		MODIFY	as specified in specific message contents
17	<-		STATUS ENQUIRY	
18	->		STATUS	cause 30#, state U26
19	<-		RADIO BEARER RECONFIGURATION	as specified in specific message contents
20	->		RADIO BEARER RECONFIGURATION COMPLETE	
21	<-		MODIFY COMPLETE	contains the new mode as bearer capability
22	SS			allow at least 2 seconds for the UE to adapt for the new mode
23	<-		STATUS ENQUIRY	
24	->		STATUS	cause 30#, state U10
25	SS			verify that the UE starts sending user information according to the new mode

Specific message contents:

SETUP message contains bearer capability 1 IE and bearer capability 2 IE for appropriate basic services.

CALL PROCEEDING message contains bearer capability 1 IE and bearer capability 2 IE for agreeing a dual mode call.

RADIO BEARER RECONFIGURATION message contains some IEs that is fit for BC in MODIFY message.

10.1.4.5.1.5 Test requirements

The UE shall send a MODIFY message including the new mode to be changed to; and enter the state U26 "Mobile Originating Modify". The new mode given in the MODIFY message shall be one of those already negotiated and agreed during the establishment phase of the call. The UE shall stop sending user information according to the old mode.

After step 21 the UE shall start sending channel information according to the new call mode and enter the CC state U10 "Active".

10.1.4.5.2 In-call functions / UE originated in-call modification / modify rejected

10.1.4.5.2.1 Definition

This is to test a special case of a in-call modification procedure, in which the in-call modification is rejected. ~~This test is applicable for any equipment supporting any dual mode bearer capability service (Teleservice 61 - Alternate Speech/Group 3 fax).~~

10.1.4.5.2.2 Conformance requirement

1) Upon receipt of the MODIFY REJECT message with the old bearer capability the UE shall: resume sending user information according to the present call mode; resume interpreting received user information according to the present call mode; and enter the "active" state.

References

TS 24.008 clause 5.3.4.3.4.1.

10.1.4.5.2.3 Test purpose

To verify that upon receipt of the MODIFY REJECT message with the old bearer capability the UE resumes sending user information according to the present call mode; resumes interpreting received user information according to the present call mode; and enters the "active" state.

10.1.4.5.2.4 Method of test

Related ICS/IXIT statements

- supported teleservices;
- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with new mode to the SS. The SS returns a MODIFY REJECT message. The state of the UE is then checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action to initiate a dual mode call Steps 2-13 of test case 10.1.4.5.1 are performed and the UE is in CC-state "Active"
2	->		MODIFY	MMI action to change the mode
3	<-		MODIFY REJECT	with cause #58 bearer capability not available and with old bearer capabilities
4	<-		STATUS ENQUIRY	
5	->		STATUS	cause 30#, state U10

Specific message contents:

None.

10.1.4.5.2.5 Test requirements

After step 3 the UE shall resume sending user information according to the present call mode; resume interpreting received user information according to the present call mode; and enter the CC state U10 "Active".

10.1.4.5.3 In-call functions / UE originated in-call modification / an abnormal case of acceptance

10.1.4.5.3.1 Definition

This is to test a special case of a in-call modification procedure, in which the in-call modification is accepted incorrectly. ~~This test is applicable for any equipment supporting any dual mode bearer capability service (Teleservice 61 - Alternate Speech/Group 3 fax).~~

10.1.4.5.3.2 Conformance requirement

1) Upon receipt of the MODIFY COMPLETE message indicating a call mode which does not correspond to the requested one the UE shall discard it and take no action.

References

TS 24.008 clause 5.3.4.4.

10.1.4.5.3.3 Test purpose

To verify that upon receipt of the MODIFY COMPLETE message indicating a call mode which does not correspond to the requested one the UE discards it and takes no action.

10.1.4.5.3.4 Method of test

Related ICS/IXIT statements

- supported teleservices;
- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with new mode to the SS. The SS returns a MODIFY COMPLETE message specifying a mode that does not correspond to the requested one. It will be verified then that the UE shall not take any action and the state of the UE will be checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action to initiate a dual mode call Steps 2-13 of test case 10.1.4.5.1 are performed and the UE is in CC-state "Active"
2	->		MODIFY	MMI action to change the mode
3	<-		MODIFY COMPLETE	with a mode that does not correspond to the requested one
4	<-		STATUS ENQUIRY	
5	->		STATUS	cause 30#, state U26

Specific message contents:

MODIFY COMPLETE message contains the Bearer capability IE that dose not correspond to the requested one by the MODIFY message.

10.1.4.5.3.5 Test requirements

After step 3 the UE shall discard received MODIFY REJECT message and take no action. The CC-entity of the UE in CC-state U26, "Mobile Originating Modify", shall remain in the call state U26.

10.1.4.5.4 In-call functions / UE originated in-call modification / an abnormal case of rejection

10.1.4.5.4.1 Definition

This is to test a special case of a in-call modification procedure, in which the in-call modification is rejected incorrectly. ~~This test is applicable for any equipment supporting any dual mode bearer capability service (Teleservice 61 - Alternate Speech/Group 3 fax).~~

10.1.4.5.4.2 Conformance requirement

1) Upon receipt of the MODIFY REJECT message indicating a call mode which does not correspond to the actual one the UE shall discard it and take no action.

References

TS 24.008 clause 5.3.4.4.

10.1.4.5.4.3 Test purpose

To verify that upon receipt of the MODIFY REJECT message indicating a call mode which does not correspond to the actual one the UE discards it and takes no action.

10.1.4.5.4.4 Method of test

Related ICS/IXIT statements

- supported teleservices;
- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with new mode to the SS. The SS returns a MODIFY REJECT message specifying a mode that does not correspond to the actual one. The state of the UE is then checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action to initiate a dual mode call Steps 2-13 of test case 10.1.4.5.1 are performed and the UE is in CC-state “Active”
2	->		MODIFY	MMI action to change the mode
3	<-		MODIFY REJECT	with a mode that does not correspond to the actual one
4	<-		STATUS ENQUIRY	
5	->		STATUS	cause 30#, state U26

Specific message contents:

MODIFY REJECT message contains the Bearer capability IE that dose not correspond to the actual one specified in the Bearer capability 1IE of the SETUP message. And also contains a cause value #58 "bearer capability not presently available".

10.1.4.5.4.5 Test requirements

After step 3 the UE shall discard received MODIFY REJECT message and take no action. The CC-entity of the UE in CC-state U26, "Mobile Originating Modify", shall remain in the call state U26.

10.1.4.5.5 In-call functions / UE originated in-call modification / time-out of timer T323

10.1.4.5.5.1 Definition

This is to test a special case of a in-call modification procedure, in which timer T323 expires in state U26, mobile originating modify. ~~This test is applicable for any equipment supporting any dual mode bearer capability service Teleservice 61 - Alternate Speech/Group 3 fax).~~

10.1.4.5.5.2 Conformance requirement

1) Upon expiration of T323 the UE shall initiate the procedures for call clearing with cause #102 "recovery on timer expiry".

References

TS 24.008 clause 5.3.4.3.4.3.

10.1.4.5.5.3 Test purpose

To verify that upon expiration of T323 the UE shall initiate the procedures for call clearing with cause #102 "recovery on timer expiry".

10.1.4.5.5.4 Method of test

Related ICS/IXIT statements

- supported circuit switched basic services;
- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with new mode to the SS. The SS does not respond until timer T323 expires at the UE. The UE is expected to respond with a DISCONNECT message. The SS checks timer T323 accuracy between emission of MODIFY and reception of DISCONNECT messages, the state of the UE and a cause value from the DISCONNECT message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action to initiate a dual mode call Steps 2-13 of test case 10.1.4.5.1 are performed and the UE is in CC-state "Active"
2	->		MODIFY	MMI action to change the mode
3	SS			the SS waits for the timer T323 expiry
4	->		DISCONNECT	cause value #102, the SS checks timer check the timer T323 accuracy
5	<-		STATUS ENQUIRY	
6	->		STATUS	cause 30#, state U11

Specific message contents:

None.

10.1.4.5.5.5 Test requirements

Upon expiry of timer T323 the UE shall initiate the procedures for call clearing by sending a DISCONNECT message with cause #102 "recovery on timer expiry" and enter the CC-state U11, "Disconnect Request".

10.1.4.5.6 In-call functions / UE originated in-call modification / a successful channel change in state mobile originating modify

10.1.4.5.6.1 Definition

This is to test a special case of a in-call modification procedure, in which a change of a physical channel occurs in state U26, mobile originating modify. ~~This test is applicable for any equipment supporting any dual mode bearer capability service (Teleservice 61 - Alternate Speech/Group 3 fax).~~

10.1.4.5.6.2 Conformance requirement

1) A CC-entity of the UE in CC-state U26, "Mobile Originating Modify", after successful completion of a radio bearer reconfiguration procedure with a physical channel change shall remain in the call state U26.

2) Upon receipt of the MODIFY COMPLETE message the UE shall start sending user information according to the new call mode and enter the "active" state.

References

1) TS 24.008 clause 5.3.4.3.2, TS25.311 clause 8.3.5.

2) TS 24.008 clause 5.3.4.3.2.

10.1.4.5.6.3 Test purpose

1) To verify that a CC-entity of the UE in CC-state U26, "Mobile Originating Modify", after successful completion of a radio bearer reconfiguration procedure remains in the call state U26.

2) To verify that upon receipt of the MODIFY COMPLETE message the UE starts sending user information according to the new call mode and enters the "active" state.

10.1.4.5.6.4 Method of test

Related ICS/IXIT statements

- supported circuit switched basic services;

- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with a new mode to the SS. The SS does not respond immediately, but performs radio bearer reconfiguration procedure including the appropriate channel mode for the new service. The state of the UE is then checked. The SS then returns a MODIFY COMPLETE message. The state of the UE is checked finally.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action to initiate a dual mode call Steps 2-13 of test case 10.1.4.5.1 are performed and the UE is in CC-state “Active”
2	->		MODIFY	MMI action to change the mode
3	<-		RADIO BEARER RECONFIGURATION	channel mode implied by the MODIFY message
4	->		RADIO BEARE RECONFIGURATION COMPLETE	
5	<-		STATUS ENQUIRY	
6	->		STATUS	cause 30#, state U26
7	<-		MODIFY COMPLETE	
8	<-		STATUS ENQUIRY	
9	->		STATUS	cause 30#, state U10

Specific message contents:

RADIO BEARER RECONFIGURATION message contains some IEs that is fit for BC in MODIFY message. And also contains the Frequency info IE with the value which is different from previous established one by Radio bearer establishment.

10.1.4.5.6.5 Test requirements

After step 4 a CC-entity of the UE in CC-state U26, "Mobile Originating Modify", shall remain in the call state U26.

After step 7 the UE shall start sending user information according to the new call mode and enter the CC state U10, "Active".

10.1.4.5.7 In-call functions / UE originated in-call modification / an unsuccessful channel change in state mobile originating modify

10.1.4.5.7.1 Definition

This is to test a special case of a in-call modification procedure, in which an unsuccessful change of a physical channel occurs in state U26, mobile originating modify. ~~This test is applicable for any equipment supporting any dual mode bearer capability service (Teleservice 61 - Alternate Speech/Group 3 fax).~~

10.1.4.5.7.2 Conformance requirement

1) A CC-entity of the UE in CC-state U26, "Mobile Originating Modify", when returning to the old channel after handover failure and having established the link, shall remain in the call state U26.

References

TS 24.008 clause 5.3.4.3.2.

10.1.4.5.7.3 Test purpose

To verify that a CC-entity of the UE in CC-state U26, "Mobile Originating Modify", when returning to the old channel after handover failure and having established the link, remains in the call state U26.

10.1.4.5.7.4 Method of test

Related ICS/IXIT statements

- supported teleservices;
- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with a new mode to the SS. The SS initiates handover procedure. When the UE tries to establish the main signalling link, it is prohibited by the SS. Then the UE shall return back to the old channel and re-establish correctly the link. The state of the UE is then checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action to initiate a dual mode call Steps 2-13 of test case 10.1.4.5.1 are performed and the UE is in CC-state “Active”
2	->		MODIFY	MMI action to change the mode
3	<-		RADIO BEARER RECONFIGURATION	
4	SS			the SS does not re-configure the physical channel
5	->		RADIO BEARER RECONFIGURATION FAILURE	after the UE has re-established the main signalling link in the old channel NOTE
6	<-		STATUS ENQUIRY	
7	->		STATUS	cause 30#, state U26

Specific message contents:

RADIO BEARER RECONFIGURATION message contains some IEs that is fit for BC in MODIFY message. And also contains the Frequency info IE with the value which is different from previous established one by Radio bearer establishment.

NOTE: With the cause value "physical channel failure".

10.1.4.5.7.5 Test requirements

After step 5 a CC-entity of the UE in CC-state U26, "Mobile Originating Modify", shall remain in the call state U26.

10.1.4.5.8 In-call functions / UE originated in-call modification / unknown message received

10.1.4.5.8.1 Definition

This is to test a special case of a in-call modification procedure, in which an unknown message is received in state U26, mobile originating modify. ~~This test is applicable for any equipment supporting any dual mode bearer capability service Teleservice 61 - Alternate Speech/Group 3 fax).~~

10.1.4.5.8.2 Conformance requirement

A CC entity of a UE in CC-state U26, "Mobile Originating Modify", having received an unknown message from its peer entity shall return a STATUS message.

References

TS 24.008 clause 8.4.

10.1.4.5.8.3 Test purpose

To verify that a CC entity of a UE in CC-state U26, "Mobile Originating Modify", having received an unknown message from its peer entity returns a STATUS message.

10.1.4.5.8.4 Method of test

Related ICS/IXIT statements

- supported teleservices;
- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with a new mode to the SS. The SS sends a message with message type not defined for the protocol discriminator. The state of the UE is then checked.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action to initiate a dual mode call Steps 2-13 of test case 10.1.4.5.1 are performed and the UE is in CC-state "Active"
2	->		MODIFY	MMI action to change the mode
3	<-		unknown message	message type not defined for PD
4	->		STATUS	cause 97#, state U26

Specific message contents:

None.

10.1.4.5.8.5 Test requirements

After step 3 a CC entity of a UE in CC-state U26, "Mobile Originating Modify", shall return a STATUS message.

10.1.4.5.9 In-call functions / UE originated in-call modification / a release complete received

10.1.4.5.9.1 Definition

The call control entity of the UE being in the state, U26, the call is cleared by a RELEASE COMPLETE message sent by the SS. ~~This test is applicable for any equipment supporting any dual mode bearer capability service (Teleservice 61 - Alternate Speech / Group 3 fax).~~

10.1.4.5.9.2 Conformance requirement

1) A CC entity of the UE in CC-state U26, "mobile originating modify", upon receipt of a RELEASE COMPLETE message with valid cause value, shall enter CC state U0, "Null".

2) On returning to idle mode, the CC entities relating to the seven mobile originating transaction identifiers shall be in state U0, "Null".

Reference(s)

Conformance requirement 1: TS 24.008 clause 5.4.2, TS 24.008 clause 5.4.4.

Conformance requirement 2: TS 24.008 clause 5.4.4.1.3.

10.1.4.5.9.3 Test purpose

1) To verify that a CC entity of the UE in CC-state U26, "mobile originating modify", upon receipt of a RELEASE COMPLETE message with valid cause value, enters CC state U0, "Null".

2) To verify that on returning to idle mode, the CC entities relating to the seven mobile originating transaction identifiers are in state U0, "Null".

10.1.4.5.9.4 Method of test

Related ICS/IXIT statements

- a way to activate a dual mode call;
- a way to activate in-call modification;
- support of dual bearer capability services.

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test Procedure

The UE initiates a call for one of the supported dual mode services. The UE being in the call active state, in-call modification procedure is initiated for the selected service from the UE side. The UE shall send a MODIFY message with the new mode to the SS and the state of the UE is checked. The SS sends a RELEASE COMPLETE message to the UE. The SS checks by using the status enquiry procedure that the CC entity has entered the state U0 with all the relevant transaction identifiers.

NOTE: ICM can be initiated by manual intervention at the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				MMI action to initiate a dual mode call Steps 2-13 of test case 10.1.4.5.1 are performed and the UE is in CC-state “Active”
2	->		MODIFY	as specified in specific message contents
3	<-		STATUS ENQUIRY	
4	->		STATUS	cause #30, state U26
5	<-		RELEASE COMPLETE	
6	<-		STATUS ENQUIRY	
7	->		RELEASE COMPLETE	cause #81 (invalid TI value)
8	SS			repeat steps 6 - 7 to cover all the transaction identifiers from 000 ... 110
9	<-		RRC CONNECTION RELEASE	the main signalling link shall be released
10	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

None.

10.1.4.5.9.5 Test requirements

The UE shall send a MODIFY message and enter the state U26 "Mobile Originating Modify".

After step 7 CC entities relating to all mobile originating transaction identifiers shall send RELEASE COMPLETE messages with cause value #81 (invalid TI value).

10.2 Call Re-establishment

10.2.1 Call Re-establishment/call present, re-establishment allowed

10.2.1.1 Definition

This is to test a successful case of a call re-establishment procedure. ~~This test is applicable for any equipment supporting at least one bearer capability. If the UE does not perform call re-establishment procedure correctly, the network will waste resources.~~

10.2.1.2 Conformance requirement

1) If the call is in the "active" state or "mobile originating modify" state, the indication from MM that re-establishment is possible shall cause call control to request re-establishment from the MM-connection, suspend any further message to be sent and await the completion of the re-establishment procedure.

2) When the call control entity is notified that the MM-connection is re-established, it shall then resume the transmission of possibly suspended messages and resume user data exchange when an appropriate channel is available.

References

1) TS 24.008 clause 4.5.1.6 and 5.5.4.2.

2) TS 24.008 clause 4.5.1.6 and 5.5.4.3.

10.2.1.3 Test purpose

The purpose of this test is to verify that the UE can correctly perform a call re-establishment procedure.

10.2.1.4 Method of test

Related ICS/IXIT statements

- supported teleservices.

Initial conditions

System Simulator:

The SS simulates cells A and B. The LAC of cell A is different from the LAC of cell B. The PLMN identities of cell A and B are equal.

The call re-establishment parameter concerning cell A is set to an arbitrary value.

Cell B is not barred. Cell B is indicated as a neighbour cell of cell A in SYSTEM INFORMATION messages of cell A. Cell reselect hysteresis parameter of cell A is set to zero.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN on cell A.

Test procedure

The UE is brought into the state U10 “Active” by using Generic call setup procedure for mobile originating circuit switched calls defined in TS34.108. The RF level of cell A is lowered so that cell B is to be selected (when the UE performs re-establishment after radio link failure), while keeping the C1 and C2 of cell A greater than zero. SS waits for at least 5 seconds. Then the SS stops transmission on the DTCH/DCCH. The UE shall re-establish the call on cell B

using a CM RE-ESTABLISHMENT message. The SS performs security mode control and radio bearer establishment procedures. The UE shall through-connect the appropriate bearer channel. Then, the call is cleared by the SS.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				The UE is brought into the state U10 "Active" by using Generic call setup procedure for mobile originating circuit switched calls defined in TS34.108 (the appropriate bearer channel is through connected in both directions in DTCH)
2		SS		The RF level of cell A is lowered. The SS waits at least 5 seconds. The SS stops transmission on the DTCH/DCCH.
3	->		RRC CONNECTION RE-ESTABLISHMENT REQUEST	this is sent on cell B.
4	<-		RRC CONNECTION RE-ESTABLISHMENT	
5	->		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	
6	->		CM REESTABLISHMENT REQUEST	note specific message contents
7	<-		SECURITY MODE COMMAND	SS starts deciphering after sending the message.
8	->		SECURITY MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
9		SS		SS starts ciphering.
10			Radio Bearer Setup Procedure	See TS34.108
11		UE		The appropriate bearer channel is through connected in both directions.
12	<-		DISCONNECT	with cause value "Normal"
13	->		RELEASE	
14	<-		RELEASE COMPLETE	
15	<-		RRC CONNECTION RELEASE	The main signalling link is released.
16	->		RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

CM RE-ESTABLISHMENT REQUEST message contains Ciphering key sequence number IE with the value which the UE was allocated in .

10.2.1.5 Test requirements

After step 2 a CC entity of the UE in the "active" state, shall suspend any further message to be sent and await the completion of the re-establishment procedure.

After step 10 the UE resume user data exchange when an appropriate channel is available.

10.2.2 Call Re-establishment/call under establishment, transmission stopped

10.2.2.1 Definition

This is to test a special case of a call re-establishment, in which it is not allowed for a UE to attempt re-establishment of a call, since the call has not been established yet. ~~This test is applicable for any equipment supporting at least one mobile originated circuit switched basic service.~~

10.2.2.2 Conformance requirement

When a lower layer failure occurs while an MM-connection is active, if the state of the call control entity is not "active", the UE shall release the MM-connection and shall not attempt call re-establishment.

References

TS 24.008 clauses 4.5.1.6 and 5.5.4.2.

10.2.2.3 Test purpose

The purpose of this test is to verify that the UE does not attempt call re-establishment when it is not allowed to take place because of the call control state.

10.2.2.4 Method of test

Related ICS/IXIT statements

- supported MO circuit switched basic services.

Initial conditions

System Simulator:

The SS simulates cell A.

Cell A is not barred.

User Equipment:

The UE is in MM-state "idle, updated" with valid TMSI and CKSN.

Test procedure

The call control entity of the UE is brought to state U4, "call delivered" by using Generic call setup procedure for mobile originating circuit switched calls defined in TS34.108. The SS stops transmission on the DTCH/DCCH. The UE shall not require re-establishment of the call on cell A.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				the UE is made to initiate a call
2	->		RRC CONNECTION REQUEST	
3	<-		RRC CONNECTION SETUP	
4	->		RRC CONNECTION SETUP COMPLETE	
5	->		CM SERVICE REQUEST	
6	<-		AUTHENTICATION REQUEST	
7	->		AUTHENTICATION RESPONSE	
8	<-		SECURITY MODE COMMAND	SS starts deciphering after sending the message.
9	->		SECURITY MODE COMPLETE	All following messages shall be sent enciphered.
10		SS		SS starts ciphering.
11	->		SETUP	
12	<-		CALL PROCEEDING	
13			Radio Bearer Setup Procedure	See TS34.108
14	<-		ALERTING	U4
15		SS		the SS stops transmission on the DTCH/DCCH
16		UE		the UE shall not attempt re-establishment on cell A. This is checked for 30 seconds after the radio link failure.

Specific message contents:

None.

10.2.2.5 Test requirements

After step 15 the UE that is not in "active" state, shall release the MM-connection and shall not attempt call re-establishment.

10.3 User to user signalling

10.3.1 Definition

The "user to user" information element is used to convey information between the mobile user and a remote ISDN user. ~~This test is therefore applicable for any equipment supporting at least one mobile terminating circuit switched basic service.~~

NOTE: There is no test for an UE originating call including a "user-user" information element since it is not a mandatory UE feature.

10.3.2 Conformance requirement

The inclusion of the "user-user" information element in downlink call control messages shall cause no adverse effects on the operation of the UE.

References

TS 24.008 clauses 5.2.2, 9.3.7, 9.3.23.1 and 10.5.4.25

10.3.3 Purpose of the test

The purpose of this test is to verify that inclusion of the "user-user" information element in either of the down link messages, SETUP or DISCONNECT causes no adverse effects on the operation of the UE.

10.3.4 Method of test

Related ICS/IXIT statement(s)

- Supported MT circuit switched basic services.
- Support of user-user information element, and details of suitable codings.

Initial conditions.

System Simulator:

The SS simulates 1 cell, with default parameters.

User Equipment:

The UE is in MM-state "idle updated", with a valid TMSI and CKSN.

Test procedure

The SS attempts to set up a mobile terminated call, with one of the supported circuit switched basic services which has been arbitrarily chosen, the generic call set up procedures for mobile terminating circuit switched calls,(either speech or data) as specified in TS34.108 clause 7. The default SETUP message contents are modified to include the user-user Information Element. The UE shall not respond adversely to the inclusion of the user-user information element.

After 30 seconds the SS sends a DISCONNECT message, again the UE shall not respond adversely to the inclusion of the user-user information element, but shall continue to clear down the call normally.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1				Generic Call Setup procedure for mobile terminating circuit switched calls defined in TS 34.108, depending on choice of Bearer Capability. The SETUP message contains the user-user IE, see Specific message contents.
2				The SS waits 30 seconds.
3		<-	DISCONNECT	Message contains the user-user IE, see Specific message contents
4		->	RELEASE	
5		<-	RELEASE COMPLETE	
6		<-	RRC CONNECTION RELEASE	
7		->	RRC CONNECTION RELEASE COMPLETE	

Specific message contents:

SETUP message contains user-user IE with the string coded in IA5 characters: for example "Call Setup".

DISCONNECT message contains user-user IE with the string coded in IA5 characters: for example "Call Disconnect". (The codings above are for example only. For the case of an UE which supports "user-user" signalling it may be necessary to add meaning to the data fields, see ICS/IXIT statement(s).)

NOTE: The codings above are for example only. For the case of an UE which supports "user-user" signalling it may be necessary to add meaning to the data fields, see ICS/IXIT statement(s).

10.3.5 Test requirements

The inclusion of the "user-user" information element in downlink call control messages shall cause no adverse effects on the operation of the UE.

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000

Document T1-000290
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

3GPP TSG T1/SIG Meeting #14
Redondo Beach CA, US, 13-15 November 2000

Tdoc T1S000241r1

CR-Form-v3

CHANGE REQUEST

⌘ **TS 34.123-1 CR 043** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Update of radio bearer test cases
Source:	⌘	Ericsson
Work item code:	⌘	***Date:*** ⌘ 2000-11-15
Category:	⌘ **F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ Update of radio bearer test cases.

Summary of change: ⌘
- A generic radio bearer test procedure has been defined in 14.1.1.
- Radio bearer test cases have been updated for using the generic test procedure.
- Radio bearer identities, RB5, RB6, RB7 and RB8, have been assigned to the radio bearers and RAB sub-flows to be tested.
- Clarifications made to test cases 14.2.19 and 14.2.21 (asymmetric reference radio bearer configurations for streaming UL:64/DL:0 and UL:128/DL:0 kbps)
- Test case 14.2.23, 14.2.25, 14.2.36, 14.2.38, 14.2.39, 14.2.42 and 14.2.44 have been split into alternative test cases based on used TTI and channel coding.
- Details have been added to following test cases:
  - 14.2.23 to 14.2.37 (Interactive or background)
  - 14.2.38 to 14.2.44 (Conversational speech + Interactive or background)
  - 14.2.45 (Conversational speech + Streaming)

Consequences if not approved: ⌘ Radio bearer testing will not be possible.

Clauses affected: ⌘ 14

Other specs affected: ⌘
☐ Other core specifications ⌘
☒ Test specifications TS 34.123-2

	☐ O&M Specifications	
Other comments: ⌘		

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

14 Radio Bearer Services

14.1 General information for radio bearer tests

The role of radio bearer services is to cover all aspects of the radio interface transport. TS 34.108, clause 6.10 specifies reference radio bearer configurations to be tested.

The applicability of radio bearer tests is dependent on the UE uplink and downlink radio access capabilities and UE support tele- and bearer-services. See TS 34.123-2, Annex B for applicability of the specific test cases.

14.1.1 Generic radio bearer test procedure~~UE radio bearer test mode activation procedure~~

~~The Radio Bearer Test Mode Activation procedure is used to get UE in the state for radio bearer testing using the radio bearer setup configurations as specified in TS 34.108, clause 6.10.~~

Initial conditions

UE in idle mode

Test procedure

a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10 for the actual radio bearer test.

b) The SS limits the UE allowed uplink transport format combinations according to the “Restricted UL TFCIs”, as specified for the sub-test of the actual radio bearer test, using the RRC transport format combination control procedure.

c) The SS closes the test loop using UE test loop mode 1 and setting the UL RLC SDU size parameter, for all radio bearers under test, according to the “UL RLC SDU size” value as specified for the sub-test of the actual radio bearer test.

d) The SS transmits, for all radio bearers under test, an RLC SDU having the size equal to the “Test data size” as specified for the sub-test of the actual radio bearer test. See note 1.

e) The SS checks that, for all radio bearers under test, the content of the received RLC SDU has the correct content and is received having the correct transport format. See [10] TS 34.109 clause 5.3.2.6.2 for details regarding the UE loopback of RLC SDUs.

f) The SS opens the UE test loop.

g) Steps b) to f) are repeated for all sub-tests

h) The SS may optionally release the radio bearer.

i) The SS may optionally deactivate the radio bearer test mode.

Note 1. For the case when the reference radio bearer configuration under test uses RLC transperant mode in downlink then the radio bearer test case shall use a DL RLC SDU size (defined by the “Test data size” parameter) equal to the DL RLC PDU size. This is due to that the UE test loop function has no ability to perform reassembly of segmented DL RLC SDUs while the RLC is operated in transperent mode. See [7] TS 25.322 for details regarding UE operation in RLC transperent mode.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<--	SYSTEM INFORMATION (BCCH)	Broadcast
2		<--	PAGING (PCCH)	Paging
3		-->	RRC CONNECTION REQUEST (CCCH)	RRC
4		<--	RRC CONNECTION SETUP (CCCH)	RRC
5		-->	RRC CONNECTION SETUP COMPLETE (DCCH)	RRC
6~~7~~		-->	PAGING RESPONSE (DCCH)	RR
7~~8~~		<--	ACTIVATE RB TEST MODE (DCCH)	TC
8~~9~~		-->	ACTIVATE RB TEST MODE COMPLETE (DCCH)	TC
9~~10~~		<--	RADIO BEARER SETUP (DCCH)	RRC
10~~11~~		-->	RADIO BEARER SETUP COMPLETE (DCCH)	RRC
11		<--	TRANSPORT FORMAT COMBINATION CONTROL	RRC Transport format combinations is limited to "Restricted UL TFCIs", as specified for the sub-test
12		<--	CLOSE UE TEST LOOP	TC UE test mode 1 RLC SDU size is for every active radio bearer set to "UL RLC SDU size", as specified for the sub-test.
13		-->	CLOSE UE TEST LOOP COMPLETE (DCCH)	TC
14		<--	DOWNLINK RLC SDU	Send test data using the downlink transport format combination under test
15		-->	UPLINK RLC SDU	
16		<--	OPEN UE TEST LOOP	TC
17		-->	OPEN UE TEST LOOP COMPLETE	TC
18			Repeat steps 11 to 17 for every sub-test.	
19			RB RELEASE	RRC Optional step
20		<--	DEACTIVATE RB TEST MODE	TC Optional step
21		-->	DEACTIVATE RB TEST MODE COMPLETE	TC Optional step

14.2 Combinations on DPCH

14.2.1 Stand-alone UL:1.7 DL:1.7 kbps SRBs for DCCH

Implicitly tested

14.2.2 Stand-alone UL:3.4 DL:3.4 kbps SRBs for DCCH

Implicitly tested

14.2.3 Stand-alone UL:13.6 DL:13.6 kbps SRBs for DCCH

Implicitly tested

14.2.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.4.1 Conformance requirement

The UE shall be able to establish the UTRAN requested radio bearers within the UE's signaled radio access capabilities ~~be able to establish the UTRAN requested radio bearers~~.

The UE shall correctly transfer user data from peer to peer RLC entitities according to the requested radio bearer configuration.

Reference(s)

3GPP TS 25.331, clause 8.2.1

3GPP TS 25.2xx series (Physical Layer)

3GPP TS 25.321 (MAC)

3GPP TS 25.322 (RLC)

14.2.4.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.4.

14.2.4.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5~~, RAB subflow#2~~RB6~~, RAB subflow#3~~RB7RB5, RB6, RB7, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5~~, RAB subflow#2~~RB6~~, RAB subflow#3~~RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size Note 1	Test data size Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 103 bits RB7: 60 bits	RB5: 39 bits RB6: No data RB7: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 81 bits RB6: 103 bits RB7: 60 bits	RB5: 81 bits RB6: 103 bits RB7: 60 bits

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure – Sub-test 1:~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.4 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.~~

c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 39 bits for RAB subflow#1, 103 bits for RAB subflow#2 and to 60 bits for RAB subflow#3.

d) The SS transmits an RLC SDU of size 39 bits on RAB subflow#1, using transport format combination DL TFC1. No data is transmitted on RAB subflow#2 and RAB subflow#3.

e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. The SS checks that no data is received on RAB subflow#2 or RAB subflow#3.

f) The SS open the UE test loop.

Sub test 2:

g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.

h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 81 bits for RAB subflow#1, 103 bits for RAB subflow#2 and to 60 bits for RAB subflow#3.

i) The SS transmits an RLC SDU of size 81 bits on RAB subflow#1, an RLC SDU of size 103 bits on RAB subflow#2 and an RLC SDU of size 60 bits on RAB subflow#3 using transport format combination DL_TFC2.

j) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1, RAB subflow#2 and RAB subflow#3 have the correct content and are received having the correct transport format.

k) The SS may optionally open the UE test loop.

l) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 39 bits RAB#2: UL RLC SDU size = 103 bits RAB#3: UL RLC SDU size = 60 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x103 bits) RAB#3: 0 bits (TF0=0x60 bits)
6	→		UPLINK RLC SDU	UL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x103 bits) RAB#3: 0 bits (TF0=0x60 bits)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 81 bits RAB#2: UL RLC SDU size = 103 bits RAB#3: UL RLC SDU size = 60 bits
11	→		CLOSE UE TEST LOOP COMPLETE	TC
12	←		DOWNLINK RLC SDU	DL_TFC2: RAB#1: 39 bits (TF2=1x39 bits) RAB#2: 103 bits (TF1=1x103 bits) RAB#3: 60 bits (TF1=1x60 bits)
13	→		UPLINK RLC SDU	UL_TFC2: RAB#1: 39 bits (TF2=1x39 bits) RAB#2: 103 bits (TF1=1x103 bits) RAB#3: 60 bits (TF1=1x60 bits)
14	←		OPEN UE TEST LOOP	Optional step
15	→		OPEN UE TEST LOOP COMPLETE	Optional step
16			RB RELEASE	Optional step

14.2.4.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 or RB7.
   - for sub-test 2: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by SS

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format shall be~~

~~- TF1 (1x39) for RAB subflow#1.~~

~~3. At step 6 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- no data shall be received on RAB subflow#2 or RAB subflow#3.~~

~~4. At step 13 the UE transmitted transport format shall be~~

~~- TF2 (1x81) for RAB subflow#1; and~~

~~- TF1 (1x103) for RAB subflow#2; and~~

~~- TF1 (1x60) for RAB subflow#3.~~

~~5. At step 13 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- an RLC SDU on RAB subflow#2 with the same content as sent by SS; and~~

~~- an RLC SDU on RAB subflow#3 with the same content as sent by SS.~~

14.2.5 Conversational / speech / UL:10.2 DL:10.2 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.5.1 Conformance requirement

See 14.2.4.1.

14.2.5.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.5.

14.2.5.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	~~RAB subflow #3~~RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	0x65(alt. 1x0)	0x99	0x40	0x148
	TF1, bits	1x39	1x99	1x40	1x148
	TF2, bits	1x65	N/A	N/A	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, ~~RAB subflow#3~~RB7,DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1, TF1)

Downlink TFS:

		~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	~~RAB subflow #3~~RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x99	0x40	0x148
	TF1, bits	1x39	1x99	1x40	1x148
	TF2, bits	1x65	N/A	N/A	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, ~~RAB subflow#3~~RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size Note 1	Test data size Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 99 bits RB7: 40 bits	RB5: 39 bits RB6: No data RB7: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 65 bits RB6: 99 bits RB7: 40 bits	RB5: 65 bits RB6: 99 bits RB7: 40 bits

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub test 1:~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.5 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.

c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 39 bits for RAB subflow#1, 99 bits for RAB subflow#2 and to 40 bits for RAB subflow#3.

d) The SS transmits an RLC SDU of size 39 bits on RAB subflow#1, using transport format combination DL TFC1. No data is transmitted on RAB subflow#2 and RAB subflow#3.

e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. The SS checks that no data is received on RAB subflow#2 or RAB subflow#3.

f) The SS open the UE test loop.

Sub test 2:

g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.

h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 65 bits for RAB subflow#1, 99 bits for RAB subflow#2 and to 40 bits for RAB subflow#3.

i) The SS transmits an RLC SDU of size 65 bits on RAB subflow#1, an RLC SDU of size 99 bits on RAB subflow#2 and an RLC SDU of size 40 bits on RAB subflow#3 using transport format combination DL_TFC2.

j) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1, RAB subflow#2 and RAB subflow#3 have the correct content and are received having the correct transport format.

k) The SS may optionally open the UE test loop.

l) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 39 bits RAB#2: UL RLC SDU size = 99 bits RAB#3: UL RLC SDU size = 40 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=1x99 bits) RAB#3: 0 bits (TF0=1x40 bits)
6	→		UPLINK RLC SDU	UL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=1x99 bits) RAB#3: 0 bits (TF0=1x40 bits)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 65 bits RAB#2: UL RLC SDU size = 99 bits RAB#3: UL RLC SDU size = 40 bits
11	→		CLOSE UE TEST LOOP COMPLETE	TC
12	←		DOWNLINK RLC SDU	DL_TFC2: RAB#1: 65 bits (TF2=1x65 bits) RAB#2: 99 bits (TF1=1x99 bits) RAB#3: 40 bits (TF1=1x40 bits)
13	→		UPLINK RLC SDU	UL_TFC2: RAB#1: 65 bits (TF2=1x65 bits) RAB#2: 99 bits (TF1=1x99 bits) RAB#3: 40 bits (TF1=1x40 bits)
14	←		OPEN UE TEST LOOP	Optional step
15	→		OPEN UE TEST LOOP COMPLETE	Optional step
16			RB RELEASE	Optional step

14.2.5.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x65); RB6/TF1 (1x99); and RB7/TF1 (1x40).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6 or RB7.
   - for sub-test 2: an RLC SDU on each of RB5, RB6 and RB7 having the same content as sent by SS

1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 6 the UE transmitted transport format shall be

~~- TF1 (1x39) for RAB subflow#1.~~

~~3. At step 6 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- no data shall be received on RAB subflow#2 or RAB subflow#3.~~

~~4. At step 13 the UE transmitted transport format shall be~~

~~- TF2 (1x65) for RAB subflow#1; and~~

~~- TF1 (1x99) for RAB subflow#2; and~~

~~- TF1 (1x40) for RAB subflow#3.~~

~~5. At step 13 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- an RLC SDU on RAB subflow#2 with the same content as sent by SS; and~~

~~- an RLC SDU on RAB subflow#3 with the same content as sent by SS.~~

14.2.6 Conversational / speech / UL:7.95 DL:7.95 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.6.1 Conformance requirement

See 14.2.4.1.

14.2.6.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.6.

14.2.6.3 Method of test

Uplink TFS:

	TFI	**~~RAB subflow #1~~RB5 (RAB subflow #1)**	**~~RAB subflow #2~~RB6 (RAB subflow #2)**	**DCCH**
TFS	TF0, bits	0x75 (alt. 1x0)	0x84	0x148
	TF1, bits	1x39	1x84	1x148
	TF2, bits	1x75	N/A	N/A

Uplink TFCS:

TFCI	**(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)**
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x84	0x148
	TF1, bits	1x39	1x84	1x148
	TF2, bits	1x75	N/A	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size Note 1	Test data size Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 84 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 75 bits RB6: 84 bits	RB5: 75 bits RB6: 84 bits

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub-test 1:~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.6 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 39 bits for RAB subflow#1 and 84 bits for RAB subflow#2.~~

~~d) The SS transmits an RLC SDU of size 39 bits on RAB subflow#1, using transport format combination DL TFC1. No data is transmitted on RAB subflow#2.~~

e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. The SS checks that no data is received on RAB subflow#2.

f) The SS open the UE test loop.

Sub test 2:

g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.

h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 75 bits for RAB subflow#1 and 84 bits for RAB subflow#2.

i) The SS transmits an RLC SDU of size 75 bits on RAB subflow#1 and an RLC SDU of size 84 bits on RAB subflow#2 using transport format combination DL_TFC2.

j) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and RAB subflow#2 have the correct content and are received having the correct transport format.

k) The SS may optionally open the UE test loop.

l) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 39 bits RAB#2: UL RLC SDU size = 84 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x84 bits)
6	→		UPLINK RLC SDU	UL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x84 bits)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 75 bits RAB#2: UL RLC SDU size = 84 bits
11	→		CLOSE UE TEST LOOP COMPLETE	TC
12	←		DOWNLINK RLC SDU	DL_TFC2: RAB#1: 75 bits (TF2=1x75 bits) RAB#2: 84 bits (TF1=1x84 bits)
13	→		UPLINK RLC SDU	UL_TFC2: RAB#1: 75 bits (TF2=1x75 bits) RAB#2: 84 bits (TF1=1x84 bits)
14	←		OPEN UE TEST LOOP	Optional step
15	→		OPEN UE TEST LOOP COMPLETE	Optional step
16			RB RELEASE	Optional step

14.2.6.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x75) and RB6/TF1 (1x84).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format shall be~~

~~- TF1 (1x39) for RAB subflow#1.~~

~~3. At step 6 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- no data shall be received on RAB subflow#2.~~

~~4. At step 13 the UE transmitted transport format shall be~~

~~- TF2 (1x75) for RAB subflow#1; and~~

~~- TF1 (1x84) for RAB subflow#2.~~

~~5. At step 13 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- an RLC SDU on RAB subflow#2 with the same content as sent by SS.~~

14.2.7 Conversational / speech / UL:7.4 DL:7.4 kbps / CS RAB+ UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.7.1 Conformance requirement

See 14.2.4.1.

14.2.7.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.7.

14.2.7.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x61 (alt. 1x0)	0x87	0x148
	TF1, bits	1x39	1x87	1x148
	TF2, bits	1x61	N/A	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x87	0x148
	TF1, bits	1x39	1x87	1x148
	TF2, bits	1x61	N/A	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size Note 1	Test data size Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 87 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 61 bits RB6: 87 bits	RB5: 61 bits RB6: 87 bits

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

Initial conditions

UE in idle mode

Test procedure

Sub test 1:

a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.7 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.

b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.

c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 39 bits for RAB subflow#1 and 87 bits for RAB subflow#2.

d) The SS transmits an RLC SDU of size 39 bits on RAB subflow#1, using transport format combination DL TFC1. No data is transmitted on RAB subflow#2.

e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. The SS checks that no data is received on RAB subflow#2.

f) The SS open the UE test loop.

Sub test 2:

g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.

h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 61 bits for RAB subflow#1 and 87 bits for RAB subflow#2.

i) The SS transmits an RLC SDU of size 61 bits on RAB subflow#1 and an RLC SDU of size 87 bits on RAB subflow#2 using transport format combination DL_TFC2.

j) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and RAB subflow#2 have the correct content and are received having the correct transport format.

k) The SS may optionally open the UE test loop.

l) The SS may optionally release the radio bearer.

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comments~~
	~~UE~~	~~SS~~		
~~1~~			~~UE Radio Bearer Test Mode Activation~~	~~See generic procedures in clause 14.1.1~~
~~2~~		~~←~~	~~TRANSPORT FORMAT COMBINATION CONTROL~~	~~Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}~~
~~3~~		~~←~~	~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 39 bits RAB#2: UL RLC SDU size = 87 bits~~
~~4~~		~~→~~	~~CLOSE UE TEST LOOP COMPLETE (DCCH)~~	
~~5~~		~~←~~	~~DOWNLINK RLC SDU~~	~~DL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x87 bits)~~
~~6~~		~~→~~	~~UPLINK RLC SDU~~	~~UL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x87 bits)~~
~~7~~		~~←~~	~~OPEN UE TEST LOOP~~	
~~8~~		~~→~~	~~OPEN UE TEST LOOP COMPLETE~~	
~~9~~		~~←~~	~~TRANSPORT FORMAT COMBINATION CONTROL~~	~~Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}~~
~~10~~		~~←~~	~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 61 bits RAB#2: UL RLC SDU size = 87 bits~~
~~11~~		~~→~~	~~CLOSE UE TEST LOOP COMPLETE~~	~~TC~~
~~12~~		~~←~~	~~DOWNLINK RLC SDU~~	~~DL_TFC2: RAB#1: 61 bits (TF2=1x61 bits) RAB#2: 87 bits (TF1=1x87 bits)~~
~~13~~		~~→~~	~~UPLINK RLC SDU~~	~~UL_TFC2: RAB#1: 61 bits (TF2=1x61 bits) RAB#2: 87 bits (TF1=1x87 bits)~~
~~14~~		~~←~~	~~OPEN UE TEST LOOP~~	~~Optional step~~
~~15~~		~~→~~	~~OPEN UE TEST LOOP COMPLETE~~	~~Optional step~~
~~16~~			~~RB RELEASE~~	~~Optional step~~

14.2.7.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x61) and RB6/TF1 (1x87).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format shall be~~

~~- TF1 (1x39) for RAB subflow#1.~~

~~3. At step 6 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- no data shall be received on RAB subflow#2.~~

~~4. At step 13 the UE transmitted transport format shall be~~

~~- TF2 (1x61) for RAB subflow#1; and~~

~~- TF1 (1x87) for RAB subflow#2.~~

~~5. At step 13 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- an RLC SDU on RAB subflow#2 with the same content as sent by SS.~~

14.2.8 Conversational / speech / UL:6.7 DL:6.7 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.8.1 Conformance requirement

See 14.2.4.1.

14.2.8.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.8.

14.2.8.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x58 (alt. 1x0)	0x76	0x148
	TF1, bits	1x39	1x76	1x148
	TF2, bits	1x58	N/A	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x76	0x148
	TF1, bits	1x39	1x76	1x148
	TF2, bits	1x58	N/A	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size Note 1	Test data size Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 76 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 58 bits RB6: 76 bits	RB5: 58 bits RB6: 76 bits

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub test 1:~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.8 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 39 bits for RAB subflow#1 and 76 bits for RAB subflow#2.~~

~~d) The SS transmits an RLC SDU of size 39 bits on RAB subflow#1, using transport format combination DL TFC1. No data is transmitted on RAB subflow#2.~~

~~e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. The SS checks that no data is received on RAB subflow#2.~~

~~f) The SS open the UE test loop.~~

~~Sub test 2:~~

~~g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.~~

h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 58 bits for RAB subflow#1 and 76 bits for RAB subflow#2.

i) The SS transmits an RLC SDU of size 58 bits on RAB subflow#1 and an RLC SDU of size 76 bits on RAB subflow#2 using transport format combination DL_TFC2.

j) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and RAB subflow#2 have the correct content and are received having the correct transport format.

k) The SS may optionally open the UE test loop.

l) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2		←	TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}
3		←	CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 39 bits RAB#2: UL RLC SDU size = 76 bits
4		→	CLOSE UE TEST LOOP COMPLETE (DCCH)	
5		←	DOWNLINK RLC SDU	DL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=1x76 bits)
6		→	UPLINK RLC SDU	UL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=1x76 bits)
7		←	OPEN UE TEST LOOP	
8		→	OPEN UE TEST LOOP COMPLETE	
9		←	TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}
10		←	CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 58 bits RAB#2: UL RLC SDU size = 76 bits
11		→	CLOSE UE TEST LOOP COMPLETE	TC
12		←	DOWNLINK RLC SDU	DL_TFC2: RAB#1: 58 bits (TF2=1x58 bits) RAB#2: 76 bits (TF1=1x76 bits)
13		→	UPLINK RLC SDU	UL_TFC2: RAB#1: 58 bits (TF2=1x58 bits) RAB#2: 76 bits (TF1=1x76 bits)
14		←	OPEN UE TEST LOOP	Optional step
15		→	OPEN UE TEST LOOP COMPLETE	Optional step
16			RB RELEASE	Optional step

14.2.8.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x58) and RB6/TF1 (1x76).
3. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
- for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format shall be~~

~~- TF1 (1x39) for RAB subflow#1.~~

~~3. At step 6 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- no data shall be received on RAB subflow#2.~~

~~4. At step 13 the UE transmitted transport format shall be~~

~~- TF2 (1x58) for RAB subflow#1; and~~

~~- TF1 (1x76) for RAB subflow#2.~~

~~5. At step 13 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- an RLC SDU on RAB subflow#2 with the same content as sent by SS.~~

14.2.9 Conversational / speech / UL:5.9 DL:5.9 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.9.1 Conformance requirement

See 14.2.4.1.

14.2.9.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.9.

14.2.9.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x55 (alt. 1x0)	0x63	0x148
	TF1, bits	1x39	1x63	1x148
	TF2, bits	1x55	N/A	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x63	0x148
	TF1, bits	1x39	1x63	1x148
	TF2, bits	1x55	N/A	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size Note 1	Test data size Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 63 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 55 bits RB6: 63 bits	RB5: 55 bits RB6: 63 bits

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub test 1:~~

a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.9 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.

b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.

c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 39 bits for RAB subflow#1 and 63 bits for RAB subflow#2.

d) The SS transmits an RLC SDU of size 39 bits on RAB subflow#1, using transport format combination DL TFC1. No data is transmitted on RAB subflow#2.

e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. The SS checks that no data is received on RAB subflow#2.

f) The SS open the UE test loop.

Sub test 2:

g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.

h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 55 bits for RAB subflow#1 and 63 bits for RAB subflow#2.

i) The SS transmits an RLC SDU of size 55 bits on RAB subflow#1 and an RLC SDU of size 63 bits on RAB subflow#2 using transport format combination DL_TFC2.

j) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and RAB subflow#2 have the correct content and are received having the correct transport format.

k) The SS may optionally open the UE test loop.

l) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 39 bits RAB#2: UL RLC SDU size = 63 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x63 bits)
6	→		UPLINK RLC SDU	UL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x63 bits)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 55 bits RAB#2: UL RLC SDU size = 63 bits
11	→		CLOSE UE TEST LOOP COMPLETE	TC
12	←		DOWNLINK RLC SDU	DL_TFC2: RAB#1: 55 bits (TF2=1x55 bits) RAB#2: 63 bits (TF1=1x63 bits)
13	→		UPLINK RLC SDU	UL_TFC2: RAB#1: 55 bits (TF2=1x55 bits) RAB#2: 63 bits (TF1=1x63 bits)
14	←		OPEN UE TEST LOOP	Optional step
15	→		OPEN UE TEST LOOP COMPLETE	Optional step
16			RB RELEASE	Optional step

14.2.9.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE transmitted transport format shall be

   - for sub-test 1: RB5/TF1 (1x39).

   - for sub-test 2: RB5/TF2 (1x55) and RB6/TF1 (1x63).

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.

   - for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS

1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 6 the UE transmitted transport format shall be

   - TF1 (1x39) for RAB subflow#1.

3. At step 6 the UE shall return

   - an RLC SDU on RAB subflow#1 with the same content as sent by SS; and

~~- no data shall be received on RAB subflow#2.~~

~~4. At step 13 the UE transmitted transport format shall be~~

~~- TF2 (1x55) for RAB subflow#1; and~~

~~- TF1 (1x63) for RAB subflow#2.~~

~~5. At step 13 the UE shall return~~

~~- an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~- an RLC SDU on RAB subflow#2 with the same content as sent by SS.~~

14.2.10 Conversational / speech / UL:5.15 DL:5.15 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH

14.2.10.1 Conformance requirement

See 14.2.4.1.

14.2.10.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.10.

14.2.10.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x49 (alt. 1x0)	0x54	0x148
	TF1, bits	1x39	1x54	1x148
	TF2, bits	1x49	N/A	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x54	0x148
	TF1, bits	1x39	1x54	1x148
	TF2, bits	1x49	N/A	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size Note 1	Test data size Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 54 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 49 bits RB6: 54 bits	RB5: 49 bits RB6: 54 bits

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub test 1:~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.10 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 39 bits for RAB subflow#1 and 54 bits for RAB subflow#2.~~

~~d) The SS transmits an RLC SDU of size 39 bits on RAB subflow#1, using transport format combination DL TFC1. No data is transmitted on RAB subflow#2.~~

~~e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. The SS checks that no data is received on RAB subflow#2.~~

~~f) The SS open the UE test loop.~~

~~Sub test 2:~~

~~g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.~~

~~h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 49 bits for RAB subflow#1 and 54 bits for RAB subflow#2.~~

i) The SS transmits an RLC SDU of size 49 bits on RAB subflow#1 and an RLC SDU of size 54 bits on RAB subflow#2 using transport format combination DL_TFC2.

j) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and RAB subflow#2 have the correct content and are received having the correct transport format.

k) The SS may optionally open the UE test loop.

l) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2		←	TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}
3		←	CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 39 bits RAB#2: UL RLC SDU size = 54 bits
4		→	CLOSE UE TEST LOOP COMPLETE (DCCH)	
5		←	DOWNLINK RLC SDU	DL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x54 bits)
6		→	UPLINK RLC SDU	UL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0=0x54 bits)
7		←	OPEN UE TEST LOOP	
8		→	OPEN UE TEST LOOP COMPLETE	
9		←	TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}
10		←	CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 49 bits RAB#2: UL RLC SDU size = 54 bits
11		→	CLOSE UE TEST LOOP COMPLETE	TC
12		←	DOWNLINK RLC SDU	DL_TFC2: RAB#1: 49 bits (TF2=1x49 bits) RAB#2: 54 bits (TF1=1x54 bits)
13		→	UPLINK RLC SDU	UL_TFC2: RAB#1: 49 bits (TF2=1x49 bits) RAB#2: 54 bits (TF1=1x54 bits)
14		←	OPEN UE TEST LOOP	Optional step
15		→	OPEN UE TEST LOOP COMPLETE	Optional step
16			RB RELEASE	Optional step

14.2.10.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x49) and RB6/TF1 (1x54).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.
   - for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format shall be~~

~~— TF1 (1x39) for RAB subflow#1.~~

~~3. At step 6 the UE shall return~~

~~— an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~— no data shall be received on RAB subflow#2.~~

~~4. At step 13 the UE transmitted transport format shall be~~

~~— TF2 (1x49) for RAB subflow#1; and~~

~~— TF1 (1x54) for RAB subflow#2.~~

~~5. At step 13 the UE shall return~~

~~— an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~— an RLC SDU on RAB subflow#2 with the same content as sent by SS.~~

14.2.11 Conversational / speech / UL:4.75 DL:4.75 kbps / CS RAB + UL:1.7 DL:1.7 kbps SRBs for DCCH

14.2.11.1 Conformance requirement

See 14.2.4.1.

14.2.11.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.11.

14.2.11.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	0x49 (alt. 1x0)	0x53	0x148
	TF1, bits	1x39	1x53	1x148
	TF2, bits	1x42	N/A	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF1, TF0)
UL_TFC3	(TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1)

Downlink TFS:

		~~RAB subflow #1~~RB5 (RAB subflow #1)	~~RAB subflow #2~~RB6 (RAB subflow #2)	DCCH
TFS	TF0, bits	1x0	0x53	0x148
	TF1, bits	1x39	1x53	1x148
	TF2, bits	1x42	N/A	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, ~~RAB subflow#2~~RB6, DCCH)
DL_TFC0	(TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0)
DL_TFC2	(TF2, TF1, TF0)
DL_TFC3	(TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size Note 1	Test data size Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 39 bits RB6: 53 bits	RB5: 39 bits RB6: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 42 bits RB6: 53 bits	RB5: 42 bits RB6: 53 bits

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub-test 1:~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.11 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 39 bits for RAB subflow#1 and 53 bits for RAB subflow#2.~~

~~d) The SS transmits an RLC SDU of size 39 bits on RAB subflow#1, using transport format combination DL TFC1. No data is transmitted on RAB subflow#2.~~

e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. The SS checks that no data is received on RAB subflow#2.

f) The SS open the UE test loop.

Sub test 2:

g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.

h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 42 bits for RAB subflow#1 and 53 bits for RAB subflow#2.

i) The SS transmits an RLC SDU of size 42 bits on RAB subflow#1 and an RLC SDU of size 53 bits on RAB subflow#2 using transport format combination DL_TFC2.

j) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and RAB subflow#2 have the correct content and are received having the correct transport format.

k) The SS may optionally open the UE test loop.

l) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 39 bits RAB#2: UL RLC SDU size = 53 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0= 0x53 bits)
6	→		UPLINK RLC SDU	UL_TFC1: RAB#1: 39 bits (TF1=1x39 bits) RAB#2: 0 bits (TF0= 0x53 bits)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using RAB#1: UL RLC SDU size = 42 bits RAB#2: UL RLC SDU size = 53 bits
11	→		CLOSE UE TEST LOOP COMPLETE	TC
12	←		DOWNLINK RLC SDU	DL_TFC2: RAB#1: 42 bits (TF2=1x42 bits) RAB#2: 53 bits (TF1=1x53 bits)
13	→		UPLINK RLC SDU	UL_TFC2: RAB#1: 42 bits (TF2=1x42 bits) RAB#2: 53 bits (TF1=1x53 bits)
14	←		OPEN UE TEST LOOP	Optional step
15	→		OPEN UE TEST LOOP COMPLETE	Optional step
16			RB RELEASE	Optional step

14.2.11.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE transmitted transport format shall be

   - for sub-test 1: RB5/TF1 (1x39).

   - for sub-test 2: RB5/TF2 (1x42) and RB6/TF1 (1x53).

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6.

   - for sub-test 2: an RLC SDU on each of RB5 and RB6 having the same content as sent by SS

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format shall be~~

~~— TF1 (1x39) for RAB subflow#1.~~

~~3. At step 6 the UE shall return~~

~~— an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~— no data shall be received on RAB subflow#2.~~

~~4. At step 13 the UE transmitted transport format shall be~~

~~— TF2 (1x42) for RAB subflow#1; and~~

~~— TF1 (1x53) for RAB subflow#2.~~

~~5. At step 13 the UE shall return~~

~~— an RLC SDU on RAB subflow#1 with the same content as sent by SS; and~~

~~— an RLC SDU on RAB subflow#2 with the same content as sent by SS.~~

14.2.12 Conversational / unknown / UL:28.8 DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.12.1 Conformance requirement

See 14.2.4.1.

14.2.12.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.12.

14.2.13.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1x148
	TF2, bits	2x576	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF0, TF1)
UL_TFC4	(TF1, TF1)
UL_TFC5	(TF2, TF1)

Downlink TFS:

		~~RAB subflow #1~~RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1x148
	TF2, bits	2x576	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF0, TF1)
DL_TFC4	(TF1, TF1)
DL_TFC5	(TF2, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 576	RB5: 576
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5,	RB5: 1152	RB5: 1152

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub test 1:~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.12 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC3} using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 576 bits for RAB subflow#1.~~

~~d) The SS transmits an RLC SDU of size 576 bits on RAB subflow#1, using transport format combination DL TFC1.~~

~~e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1has the correct content and is received having the correct transport format. f) The SS open the UE test loop.~~

~~Sub test 2:~~

~~g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5}using the RRC transport format combination control procedure.~~

~~h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1152 bits for RAB subflow#1.~~

~~i) The SS transmits an RLC SDU of size 1152 bits on RAB subflow#1using transport format combination DL_TFC2.~~

~~j) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1 has the correct content and are received having the correct transport format.~~

~~k) The SS may optionally open the UE test loop.~~

~~l) The SS may optionally release the radio bearer.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comments~~
	~~UE~~	~~SS~~		
~~1~~			~~UE Radio Bearer Test Mode Activation~~	~~See generic procedures in clause 14.1.1~~
~~2~~	~~←~~		~~TRANSPORT FORMAT COMBINATION CONTROL~~	~~Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC3}~~
~~3~~	~~←~~		~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using UL RLC SDU size = 576 bits~~
~~4~~	~~→~~		~~CLOSE UE TEST LOOP COMPLETE (DCCH)~~	
~~5~~	~~←~~		~~DOWNLINK RLC SDU~~	~~DL_TFC1: 576 bits (TF1=1x576 bits)~~
~~6~~	~~→~~		~~UPLINK RLC SDU~~	~~UL_TFC1: 576 bits (TF1=1x576 bits)~~
~~7~~	~~←~~		~~OPEN UE TEST LOOP~~	
~~8~~	~~→~~		~~OPEN UE TEST LOOP COMPLETE~~	
~~9~~	~~←~~		~~TRANSPORT FORMAT COMBINATION CONTROL~~	~~Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5}~~
~~10~~	~~←~~		~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using UL RLC SDU size = 1152 bits~~
~~11~~	~~→~~		~~CLOSE UE TEST LOOP COMPLETE~~	~~TC~~
~~12~~	~~←~~		~~DOWNLINK RLC SDU~~	~~DL_TFC2: 1152 bits (TF2=2x576 bits)~~
~~13~~	~~→~~		~~UPLINK RLC SDU~~	~~UL_TFC2: 1152 bits (TF2=2x576 bits)~~
~~14~~	~~←~~		~~OPEN UE TEST LOOP~~	~~Optional step~~
~~15~~	~~→~~		~~OPEN UE TEST LOOP COMPLETE~~	~~Optional step~~
~~16~~			~~RB RELEASE~~	~~Optional step~~

14.2.12.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x576).
   - for sub-test 2: RB5/TF2 (2x576).
3. At step 15 the UE shall return
   - for sub-test 1 and 2: an RLC SDU on RB5 having the same content as sent by SS.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format on RAB subflow#1 shall be TF1 (1x576).~~

~~3. At step 6 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~4. At step 13 the UE transmitted transport format on RAB subflow#1 shall be TF2 (2x576).~~

~~5. At step 13 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.13 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.13.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 20 ms TTI

14.2.13.1.1 Conformance requirement

See 14.2.4.1.

14.2.13.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.13 for the 20 ms TTI case.

14.2.13.1.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	2x640	1x148

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	2x640	1x148

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 1280	RB5: 1280

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.13 for the 20 ms TTI case using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1280 bits for RAB subflow#1.~~

~~c) The SS transmits an RLC SDU of size 1280 bits on RAB subflow#1 using transport format combination DL_TFC1~~

~~d) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and has the correct content and is received having the correct transport format.~~

~~e) The SS may optionally open the UE test loop.~~

~~f) The SS may optionally release the radio bearer.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comments~~
	~~UE~~	~~SS~~		
~~1~~			~~UE Radio Bearer Test Mode Activation~~	~~See generic procedures in clause 14.1.1~~
~~2~~		~~←~~	~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using UL RLC SDU size = 1280 bits~~
~~3~~		~~→~~	~~CLOSE UE TEST LOOP COMPLETE (DCCH)~~	
~~4~~		~~←~~	~~DOWNLINK RLC SDU~~	~~DL_TFC1: 1280 bits (TF1=2x640 bits)~~
~~5~~		~~→~~	~~UPLINK RLC SDU~~	~~UL_TFC1: 1280 bits (TF1=2x640 bits)~~
~~6~~		~~←~~	~~OPEN UE TEST LOOP~~	~~Optional step~~
~~7~~		~~→~~	~~OPEN UE TEST LOOP COMPLETE~~	~~Optional step~~
~~8~~			~~RB RELEASE~~	~~Optional step~~

14.2.13.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE transmitted transport format shall be

- for sub-test 1: RB5/TF1 (2x640).

3. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 5 the UE transmitted transport format on RAB subflow#1 shall be TF1 (2x640).~~

~~3. At step 5 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.13.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 40 ms TTI

14.2.13.2.1 Conformance requirement

See 14.2.4.1.

14.2.13.2.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.13 for the 40 ms TTI case.

14.2.13.2.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	4x640	1x148

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	4x640	1x148

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 2560	RB5: 2560

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.13 for the 40 ms TTI case using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 2560 bits for RAB subflow#1.~~

~~c) The SS transmits an RLC SDU of size 2560 bits on RAB subflow#1 using transport format combination DL_TFC1~~

~~d) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and has the correct content and is received having the correct transport format.~~

~~e) The SS may optionally open the UE test loop.~~

~~f) The SS may optionally release the radio bearer.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comments~~
	~~UE~~	~~SS~~		
~~1~~			~~UE Radio Bearer Test Mode Activation~~	~~See generic procedures in clause 14.1.1~~
~~2~~	~~←~~		~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using UL RLC SDU size = 2560 bits~~
~~3~~	~~→~~		~~CLOSE UE TEST LOOP COMPLETE (DCCH)~~	
~~4~~	~~←~~		~~DOWNLINK RLC SDU~~	~~DL_TFC1: 2560 bits (TF1=4x640 bits)~~
~~5~~	~~→~~		~~UPLINK RLC SDU~~	~~UL_TFC1: 2560 bits (TF1=4x640 bits)~~
~~6~~	~~←~~		~~OPEN UE TEST LOOP~~	~~Optional step~~
~~7~~	~~→~~		~~OPEN UE TEST LOOP COMPLETE~~	~~Optional step~~
~~8~~			~~RB RELEASE~~	~~Optional step~~

14.2.13.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE transmitted transport format shall be

- for sub-test 1: RB5/TF1 (4x640).

3. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 5 the UE transmitted transport format on RAB subflow#1 shall be TF1 (4x640).~~

~~3. At step 5 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.14 Conversational / unknown / UL:32 DL:32 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.14.1 Conversational / unknown / UL:32 DL:32 kbps / CS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 20 ~~ms~~ ms TTI

14.2.14.1.1 Conformance requirement

See 14.2.4.1.

14.2.14.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.14 for the 20 ms TTI case.

14.2.14.1.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	1x640	1x148

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	1x640	1x148

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 640	RB5: 640

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.14 for the 20 ms TTI case using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 640 bits for RAB subflow#1.~~

~~c) The SS transmits an RLC SDU of size 640 bits using transport format combination DL_TFC1.~~

~~d) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and has the correct content and is received having the correct transport format.~~

~~e) The SS may optionally open the UE test loop.~~

~~f) The SS may optionally release the radio bearer.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comments~~
	~~UE~~	~~SS~~		
~~1~~			~~UE Radio Bearer Test Mode Activation~~	~~See generic procedures in clause 14.1.1~~
~~2~~	~~←~~		~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using UL RLC SDU size = 640 bits~~
~~3~~	~~→~~		~~CLOSE UE TEST LOOP COMPLETE (DCCH)~~	
~~4~~	~~←~~		~~DOWNLINK RLC SDU~~	~~DL_TFC1: 640 bits (TF1=1x640 bits)~~
~~5~~	~~→~~		~~UPLINK RLC SDU~~	~~UL_TFC1: 640 bits (TF1=1x640 bits)~~
~~6~~	~~←~~		~~OPEN UE TEST LOOP~~	~~Optional step~~
~~7~~	~~→~~		~~OPEN UE TEST LOOP COMPLETE~~	~~Optional step~~
~~8~~			~~RB RELEASE~~	~~Optional step~~

14.2.14.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x640).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 5 the UE transmitted transport format on RAB subflow#1 shall be TF1 (1x640).~~

~~3. At step 5 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.14.2 Conversational / unknown / UL:32 DL:32 kbps / CS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 40 ms TTI

14.2.14.2.1 Conformance requirement

See 14.2.4.1.

14.2.14.2.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.14 for the 40 ms TTI case.

14.2.14.2.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	2x640	1x148

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	2x640	1x148

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 1280	RB5: 1280

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.14 for the 40 ms TTI case using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1280 bits for RAB subflow#1.~~

~~c) The SS transmits an RLC SDU of size 1280 bits using transport format combination DL_TFC1.~~

~~d) The SS checks that the content of the received RLC SDUs returned in uplink on RAB subflow#1 and has the correct content and is received having the correct transport format.~~

~~e) The SS may optionally open the UE test loop.~~

~~f) The SS may optionally release the radio bearer.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comments~~
	~~UE~~	~~SS~~		
~~1~~			~~UE Radio Bearer Test Mode Activation~~	~~See generic procedures in clause 14.1.1~~
~~2~~	~~←~~		~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using UL RLC SDU size = 1280 bits~~
~~3~~	~~→~~		~~CLOSE UE TEST LOOP COMPLETE (DCCH)~~	
~~4~~	~~←~~		~~DOWNLINK RLC SDU~~	~~DL_TFC1: 1280 bits (TF1=2x640 bits)~~
~~5~~	~~→~~		~~UPLINK RLC SDU~~	~~UL_TFC1: 1280 bits (TF1=2x640 bits)~~
~~6~~	~~←~~		~~OPEN UE TEST LOOP~~	~~Optional step~~
~~7~~	~~→~~		~~OPEN UE TEST LOOP COMPLETE~~	~~Optional step~~
~~8~~			~~RB RELEASE~~	~~Optional step~~

14.2.14.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (2x640).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 5 the UE transmitted transport format on RAB subflow#1 shall be TF1 (2x640).~~

~~3. At step 5 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.15 Streaming / unknown / UL:14.4/DL:14.4 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.15.1 Conformance requirement

See 14.2.4.1.

14.2.15.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.15.

14.2.15.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (14.4 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1x148

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (14.4 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1x148

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 576	RB5: 576

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.15 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 576 bits for RAB subflow#1.~~

~~c) The SS transmits an RLC SDU of size 576 bits using transport format combination DL_TFC1.~~

~~d) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1 has correct content and is received having the correct transport format.~~

~~e) The SS may optionally open the UE test loop.~~

~~f) The SS may optionally release the radio bearer.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comments~~
	~~UE~~	~~SS~~		
~~1~~			~~UE Radio Bearer Test Mode Activation~~	~~See generic procedures in clause 14.1.1~~
~~2~~	~~←~~		~~CLOSE UE TEST LOOP~~	~~UE test loop mode 1 is closed using UL RLC SDU size = 576 bits~~
~~3~~	~~→~~		~~CLOSE UE TEST LOOP COMPLETE (DCCH)~~	
~~4~~	~~←~~		~~DOWNLINK RLC SDU~~	~~DL_TFC1: 576 bits (TF1=1x576)~~
~~5~~	~~→~~		~~UPLINK RLC SDU~~	~~UL_TFC1: 576 bits (TF1=1x576)~~
~~6~~	~~←~~		~~OPEN UE TEST LOOP~~	~~Optional step~~
~~7~~	~~→~~		~~OPEN UE TEST LOOP COMPLETE~~	~~Optional step~~
~~8~~			~~RB RELEASE~~	~~Optional step~~

14.2.15.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x576).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 5 the UE transmitted transport format on RAB subflow#1 shall be TF1 (1x576).~~

~~3. At step 5 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.16 Streaming / unknown / UL:28.8/DL:28.8 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.16.

See test case 14.2.12 for test procedure and test requirement.

14.2.17 Streaming / unknown / UL:57.6/DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.17.1 Conformance requirement

See 14.2.4.1.

14.2.17.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.17.

14.2.17.3 Method of test

Uplink TFS:

	TFI	**~~RAB subflow #1~~RB5 (57.6 kbps)**	**DCCH**
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1~~0~~x148
	TF2, bits	2x576	N/A
	TF3, bits	3x576	N/A
	TF4, bits	4x576	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (57.6 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	~~0~~1x148
	TF2, bits	2x576	N/A
	TF3, bits	3x576	N/A
	TF4, bits	4x576	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC6, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 576	RB5: 576
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC5, DL_TFC7, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 1152	RB5: 1152
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC5, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1728	RB5: 1728
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC5, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2304	RB5: 2304

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub-test 1:~~

~~a) The SS setup the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.17 using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 576 bits for RAB subflow#1.~~

~~d) The SS transmits an RLC SDU of size 576 bits using transport format combination DL_TFC1 (1x576).~~

~~e) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1 has correct content and is received having the correct transport format.~~

~~f) The SS open the UE test loop.~~

~~Sub-test 2:~~

~~g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1152 bits for RAB subflow#1.~~

~~i) The SS transmits an RLC SDU of size 1152 bits using transport format combination DL_TFC2 (2x576).~~

~~j) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1 has correct content and is received having the correct transport format.~~

~~k) The SS open the UE test loop.~~

~~Sub-test 3:~~

~~l) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~m) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1728 bits for RAB subflow#1.~~

~~n) The SS transmits an RLC SDU of size 1728 bits using transport format combination DL_TFC3 (3x576).~~

~~o) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1 has correct content and is received having the correct transport format.~~

~~p) The SS open the UE test loop.~~

~~q) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~r) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 2304 bits for RAB subflow#1.~~

~~s) The SS transmits an RLC SDU of size 2304 bits using transport format combination DL_TFC4 (4x576).~~

~~t) The SS checks that the content of the received RLC SDU returned in uplink on RAB subflow#1 has correct content and is received having the correct transport format.~~

u) The SS may optionally open the UE test loop.

v) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 576 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: 576 bits (TF1=1x576 bits)
6	→		UPLINK RLC SDU	UL_TFC1: 576 bits (TF1=1x576 bits)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 1152 bits
11	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
12	←		DOWNLINK RLC SDU	DL_TFC2: 1152 bits (TF2=2x576 bits)
13	→		UPLINK RLC SDU	UL_TFC2: 1152 bits (TF2=2x576 bits)
14	←		OPEN UE TEST LOOP	
15	→		OPEN UE TEST LOOP COMPLETE	
16	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8}
17	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 1728 bits
18	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
19	←		DOWNLINK RLC SDU	DL_TFC3: 1728 bits (TF3=3x576 bits)
20	→		UPLINK RLC SDU	UL_TFC3: 1728 bits (TF3=3x576 bits)
21	←		OPEN UE TEST LOOP	
22	→		OPEN UE TEST LOOP COMPLETE	
23	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9}
24	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 2304 bits
25	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
26	←		DOWNLINK RLC SDU	DL_TFC4: 2304 bits (TF4=4x576 bits)
27	→		UPLINK RLC SDU	UL_TFC4: 2304 bits (TF4=4x576 bits)
28	←		OPEN UE TEST LOOP	Optional step
29	→		OPEN UE TEST LOOP COMPLETE	Optional step
30			RB RELEASE	Optional step

14.2.17.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE transmitted transport format shall be

   - for sub-test 1: RB5/TF1 (1x576).

   - for sub-test 2: RB5/TF2 (2x576).

   - for sub-test 3: RB5/TF3 (3x576).

   - for sub-test 4: RB5/TF4 (4x576).

3. At step 15 the UE shall return

   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as sent by SS.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format on RAB subflow#1 shall be TF1 (1x576).~~

~~3. At step 6 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~4. At step 13 the UE transmitted transport format on RAB subflow#1 shall be TF2 (2x576).~~

~~5. At step 13 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~6. At step 20 the UE transmitted transport format on RAB subflow#1 shall be TF3 (3x576).~~

~~7. At step 20 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~8. At step 27 the UE transmitted transport format on RAB subflow#1 shall be TF4 (4x576).~~

~~9. At step 27 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.18 Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.18.1 Conformance requirement

See 14.2.4.1.

14.2.18.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.18.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 64 kbps,, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.12 (Conversational/unknown/UL:28.8 kbps) is used in uplink. For all sub-tests UL_TFC1 is used.

14.2.18.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	~~0~~1x148
	TF2, bits	2x576	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF0, TF1)
UL_TFC4	(TF1, TF1)
UL_TFC5	(TF2, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x320	0x148
	TF1, bits	1x320	~~0~~1x148
	TF2, bits	2x320	N/A
	TF3, bits	4x320	N/A
	TF4, bits	8x320	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC6, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 320	RB5: 320
2	DL_TFC2	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC7, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 640	RB5: 640
3	DL_TFC3	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC8, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 1280	RB5: 1280
4	DL_TFC4	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC9, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 2560	RB5: 2560

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

Initial conditions

UE in idle mode

Test procedure

Sub-test 1:

a) The SS setup the radio bearer using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1. In downlink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.18 shall be used; and in uplink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.12 shall be used.

b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 320 bits for RAB subflow#1.

d) The SS transmits an RLC SDU of size 320 bits using transport format combination DL_TFC1 (1x320).

e) The SS checks the content of the received RLC SDU.

f) The SS open the UE test loop.

Sub-test 2:

g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 640 bits for RAB subflow#1.

i) The SS transmits an RLC SDU of size 640 bits using transport format combination DL_TFC2 (2x320).

j) The SS checks the content of the received RLC SDU.

k) The SS open the UE test loop.

Sub-test 3:

l) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

m) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1280 bits for RAB subflow#1.

n) The SS transmits an RLC SDU of size 1280 bits using transport format combination DL_TFC3 (4x320).

o) The SS checks the content of the received RLC SDU.

p) The SS open the UE test loop.

Sub-test 4:

q) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

r) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 2560 bits for RAB subflow#1.

s) The SS transmits an RLC SDU of size 2560 bits using transport format combination DL_TFC4 (8x320).

t) The SS checks the content of the received RLC SDU.

u) The SS may optionally open the UE test loop.

v) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 320 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: 320 bits (TF1=1x320 bits)
6	→		UPLINK RLC SDU	UL_TFC1: 320 bits (TF1=1x576 bits) 1xUL RLC PDU (320 bits + padding)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 640 bits
11	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
12	←		DOWNLINK RLC SDU	DL_TFC2: 640 bits (TF2=2x320)
13	→		UPLINK RLC SDU	UL_TFC1: 640 bits (TF1=1x576 bits) 2xUL RLC PDU, padding the 2nd RLC PDU)
14	←		OPEN UE TEST LOOP	
15	→		OPEN UE TEST LOOP COMPLETE	
16	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
17	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 1280 bits
18	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
19	←		DOWNLINK RLC SDU	DL_TFC3: 1280 bits (TF3=4x320 bits)
20	→		UPLINK RLC SDU	UL_TFC1: 1280 bits (TF1=1x576 bits) 3xRLC PDUs, padding the 3rd RLC PDU
21	←		OPEN UE TEST LOOP	
22	→		OPEN UE TEST LOOP COMPLETE	
23	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
24	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 2560 bits
25	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
26	←		DOWNLINK RLC SDU	DL_TFC4: 2560 bits (TF4=8x320 bits)
27	→		UPLINK RLC SDU	UL_TFC1: 2560 bits (TF1=1x576 bits) 5xRLC PDUs, padding the 5th RLC PDU
28	←		OPEN UE TEST LOOP	Optional step
29	→		OPEN UE TEST LOOP COMPLETE	Optional step
30			RB RELEASE	Optional step

14.2.18.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE shall return

- for sub-test 1 to 4: an RLC SDU on RB5 having the same content as sent by SS.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~3. At step 6 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~3. At step 13 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~4. At step 20 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~5. At step 27 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.19 Streaming / unknown / UL:64 DL:0 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.19.1 Conformance requirement

See 14.2.4.1.

14.2.19.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.19.

To be able to test the uplink radio bearer using the UE loopback function for the reference radio bearer UL:64 DL: 0 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.12 (Conversational/unknown/UL:28.8 kbps) is used in downlink. For all sub-tests DL_TFC1 is used.

14.2.19.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x320	0x148
	TF1, bits	1x320	~~0~~1x148
	TF2, bits	2x320	N/A
	TF3, bits	4x320	N/A
	TF4, bits	8x320	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	~~0~~1x148
	TF2, bits	2x576	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF0, TF1)
DL_TFC4	(TF1, TF1)
DL_TFC5	(TF2, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 320	RB5: 576 Note 2
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 640	RB5: 1152 Note 3
3	DL_TFC2	UL_TFC3	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1280	RB5: 1152 Note 4
4	DL_TFC2	UL_TFC4	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2560	RB5: 1152 Note 5

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

Note 2 SS is using a DL RLC SDU with 576 bits as test data (=DL RLC PDU size for DL/TF1). UE will return the first 320 bits of the test data.

Note 3 SS is using a DL RLC SDU size of 1152 bits as test data (=DL RLC PDU size for DL/TF2). UE will return the first 640 bits of the test data.

Note 4 SS is using a DL RLC SDU size of 1152 bits as test data (=DL RLC PDU size for DL/TF2). UE will return an RLC SDU repeating the received DL RLC SDU two times (truncating the last one to fit the UL RLC SDU size of 1280 bits).

Note 5 SS is using a DL RLC SDU size of 1152 bits as test data (=DL RLC PDU size for DL/TF2). UE will return an RLC SDU repeating the received DL RLC SDU three times (truncating the last one to fit the UL RLC SDU size of 2560 bits).

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub-test 1:~~

~~a) The SS setup the radio bearer using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1. In uplink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.19 shall be used; and in downlink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.12 shall be used.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 320 bits for RAB subflow#1.~~

~~d) The SS transmits an RLC SDU of size 576 bits using transport format combination DL_TFC1 (1x576).~~

~~e) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~f) The SS open the UE test loop.~~

~~Sub-test 2:~~

~~g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 640 bits for RAB subflow#1.~~

~~i) The SS transmits an RLC SDU of size 640 bits using transport format combination DL_TFC1 (1x576).~~

~~j) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~k) The SS open the UE test loop.~~

~~Sub-test 3:~~

~~l) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~m) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1280 bits for RAB subflow#1.~~

~~n) The SS transmits an RLC SDU of size 1280 bits using transport format combination DL_TFC1 (1x576).~~

~~o) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~p) The SS open the UE test loop.~~

~~Sub-test 4:~~

~~q) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~r) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 2560 bits for RAB subflow#1.~~

~~s) The SS transmits an RLC SDU of size 2560 bits using transport format combination DL_TFC1 (1x576).~~

~~t) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~u) The SS may optionally open the UE test loop.~~

~~v) The SS may optionally release the radio bearer.~~

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 320 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: 320 bits (TF1=1x576 bits) 1xRLC PDUs, padding
6	→		UPLINK RLC SDU	UL_TFC1: 320 bits (TF1=1x320 bits)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 640 bits
11	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
12	←		DOWNLINK RLC SDU	DL_TFC1: 640 bits (TF1=1x576 bits) 2 x RLC PDUs, padding the 2nd RLC PDU
13	→		UPLINK RLC SDU	UL_TFC2: 640 (TF2=2x320 bits)
14	←		OPEN UE TEST LOOP	
15	→		OPEN UE TEST LOOP COMPLETE	
16	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8}
17	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 1280 bits
18	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
19	←		DOWNLINK RLC SDU	DL_TFC1: 1280 bits (TF1=1x576 bits) 3 x RLC PDUs, padding the 3rd RLC PDU
20	→		UPLINK RLC SDU	UL_TFC3: 1280 bits (TF3=4x320 bits)
21	←		OPEN UE TEST LOOP	
22	→		OPEN UE TEST LOOP COMPLETE	
23	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9}
24	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 2560 bits
25	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
26	←		DOWNLINK RLC SDU	DL_TFC1: 2560 bits (TF1=1x576 bits) 5 x RLC PDUs, padding the 5th RLC PDU
27	→		UPLINK RLC SDU	UL_TFC4: 2560 bits (TF4=8x320 bits)
28	←		OPEN UE TEST LOOP	Optional step
29	→		OPEN UE TEST LOOP COMPLETE	Optional step
30			RB RELEASE	Optional step

14.2.19.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE transmitted transport format shall be

- for sub-test 1: RB5/TF1 (1x320).
- for sub-test 2: RB5/TF2 (2x320).
- for sub-test 3: RB5/TF3 (4x320).
- for sub-test 4: RB5/TF4 (8x320).

3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as the first 320 bits of the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on RB5 having the same content as the first 640 bits of the DL RLC SDU sent by the SS.
   - for sub-test 3: an RLC SDU on RB5 for which the first 1152 bits is equal to the sent DL RLC SDU and the remaining 128 bits are equal to the first 128 of the sent DL RLC SDU.
   - for sub-test 4: an RLC SDU on RB5 for which the first and second 1152 bits are equal to the sent DL RLC SDU and the remaining 256 bits are equal to the first 256 of the sent DL RLC SDU.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format on RAB subflow#1 shall be TF1 (1x320).~~

~~3. At step 6 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~4. At step 13 the UE transmitted transport format on RAB subflow#1 shall be TF2 (2x320).~~

~~5. At step 13 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~6. At step 20 the UE transmitted transport format on RAB subflow#1 shall be TF3 (4x320).~~

~~7. At step 20 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~8. At step 27 the UE transmitted transport format on RAB subflow#1 shall be TF4 (8x320).~~

~~9. At step 27 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.20 Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.20.1 Conformance requirement

See 14.2.4.1.

14.2.20.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.20.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 128 kbps,, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.12 (Conversational/unknown/UL:28.8 kbps) is used in uplink. For all sub-tests UL_TFC1 is used.

14.2.20.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	~~0~~1x148
	TF2, bits	2x576	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF0, TF1)
UL_TFC4	(TF1, TF1)
UL_TFC5	(TF2, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x320	0x148
	TF1, bits	1x320	~~0~~1x148
	TF2, bits	2x320	N/A
	TF3, bits	4x320	N/A
	TF4, bits	8x320	N/A
	TF5, bits	16x320	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF0, TF1)
DL_TFC7	(TF1, TF1)
DL_TFC8	(TF2, TF1)
DL_TFC9	(TF3, TF1)
DL_TFC10	(TF4, TF1)
DL_TFC11	(TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC7, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 320	RB5: 320
2	DL_TFC2	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC8, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 640	RB5: 640
3	DL_TFC3	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC9, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 1280	RB5: 1280
4	DL_TFC4	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC10, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 2560	RB5: 2560
5	DL_TFC5	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 5120	RB5: 5120

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub-test 1:~~

~~a) The SS setup the radio bearer using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1. In downlink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.20 shall be used; and in uplink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.12 shall be used.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 320 bits for RAB subflow#1.~~

~~d) The SS transmits an RLC SDU of size 320 bits using transport format combination DL_TFC1 (1x320).~~

~~e) The SS checks the content of the received RLC SDU.~~

~~f) The SS open the UE test loop.~~

~~Sub-test 2:~~

~~g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 640 bits for RAB subflow#1.~~

~~i) The SS transmits an RLC SDU of size 640 bits using transport format combination DL_TFC2 (2x320).~~

j) The SS checks the content of the received RLC SDU.

k) The SS open the UE test loop.

Sub-test 3:

l) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

m) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1280 bits for RAB subflow#1.

n) The SS transmits an RLC SDU of size 1280 bits using transport format combination DL_TFC3 (4x320).

o) The SS checks the content of the received RLC SDU.

p) The SS open the UE test loop.

Sub-test 4:

q) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

r) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 2560 bits for RAB subflow#1.

s) The SS transmits an RLC SDU of size 2560 bits using transport format combination DL_TFC4 (8x320).

t) The SS checks the content of the received RLC SDU.

u) The SS open the UE test loop.

Sub-test 5:

v) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

x) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 5120 bits for RAB subflow#1.

y) The SS transmits an RLC SDU of size 5120 bits using transport format combination DL_TFC5 (16x320).

z) The SS checks the content of the received RLC SDU.

aa) The SS may optionally open the UE test loop.

bb) The SS may optionally release the radio bearer.Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 320 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: 320 bits (TF1=1x320 bits)
6	→		UPLINK RLC SDU	UL_TFC1: 320 bits (TF1=1x576 bits) 1xUL RLC PDU (320 bits + padding)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 640 bits
11	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
12	←		DOWNLINK RLC SDU	DL_TFC2: 640 bits (TF2=2x320)
13	→		UPLINK RLC SDU	UL_TFC1: 640 bits (TF1=1x576 bits) 2xUL RLC PDU, padding the 2nd RLC PDU
14	←		OPEN UE TEST LOOP	
15	→		OPEN UE TEST LOOP COMPLETE	
16	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
17	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 1280 bits
18	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
19	←		DOWNLINK RLC SDU	DL_TFC3: 1280 bits (TF3=4x320 bits)
20	→		UPLINK RLC SDU	UL_TFC1: 1280 bits (TF1=1x576 bits) 3xRLC PDUs, padding the 3rd RLC PDU
21	←		OPEN UE TEST LOOP	
22	→		OPEN UE TEST LOOP COMPLETE	
23	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
24	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 2560 bits
25	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
26	←		DOWNLINK RLC SDU	DL_TFC4: 2560 bits (TF4=8x320 bits)
27	→		UPLINK RLC SDU	UL_TFC1: 2560 bits (TF1=1x576 bits) 5xRLC PDUs, padding the 5th RLC PDU
28	←		OPEN UE TEST LOOP	
29	→		OPEN UE TEST LOOP COMPLETE	
30	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
31	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 5120 bits
32	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
33	←		DOWNLINK RLC SDU	DL_TFC5: 5120 bits (TF5=16x320 bits)
34	→		UPLINK RLC SDU	UL_TFC1: 5120 bits (TF1=1x576 bits) 9xRLC PDUs, padding the 9th RLC PDU
35	←		OPEN UE TEST LOOP	Optional step

Step	Direction		Message	Comments
	UE	SS		
36	→		OPEN UE TEST LOOP COMPLETE	Optional step
37			RB RELEASE	Optional step

14.2.20.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE shall return

   - for sub-test 1 to 5: an RLC SDU on RB5 having the same content as sent by SS.

1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 6 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.

3. At step 13 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.

4. At step 20 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.

5. At step 27 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.

6. At step 34 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.

14.2.21 Streaming / unknown / UL:128 DL:0 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.21.1 Conformance requirement

See 14.2.4.1.

14.2.21.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.21.

To be able to test the uplink radio bearer using the UE loopback function for the reference radio bearer UL:64 DL: 0 kbps, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.12 (Conversational/unknown/UL:28.8 kbps) is used in downlink. For all sub-tests DL_TFC1 is used.

14.2.21.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x320	0x148
	TF1, bits	1x320	1~~0~~x148
	TF2, bits	2x320	N/A
	TF3, bits	4x320	N/A
	TF4, bits	8x320	N/A
	TF5, bits	16x320	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF4, TF0)
UL_TFC6	(TF0, TF1)
UL_TFC7	(TF1, TF1)
UL_TFC8	(TF2, TF1)
UL_TFC9	(TF3, TF1)
UL_TFC10	(TF4, TF1)
UL_TFC11	(TF5, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1~~0~~x148
	TF2, bits	2x576	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF0, TF1)
DL_TFC4	(TF1, TF1)
DL_TFC5	(TF2, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, DL_TFC4, UL_TFC0, UL_TFC6, UL_TFC7	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 320	RB5: 576 Note 2
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC6, UL_TFC8	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 640	RB5: 1152 Note 3
3	DL_TFC2	UL_TFC3	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC6, UL_TFC9	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 1280	RB5: 1728 Note 4
4	DL_TFC2	UL_TFC4	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC6, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 2560	RB5: 2880 Note 5
5	DL_TFC2	UL_TFC5	DL_TFC0, DL_TFC3, DL_TFC5, UL_TFC0, UL_TFC6, UL_TFC11	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 5120	RB5: 5184 Note 6

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

Note 2 SS is using a DL RLC SDU with 576 bits as test data (=DL RLC PDU size for DL/TF1). UE will return the first 320 bits of the test data.

Note 3 SS is using a DL RLC SDU size of 1152 bits as test data (=DL RLC PDU size for DL/TF2). UE will return the first 640 bits of the test data.

Note 4 SS is using a DL RLC SDU size of 1152 bits as test data (=DL RLC PDU size for DL/TF2). UE will return an RLC SDU repeating the received DL RLC SDU two times (truncating the last one to fit the UL RLC SDU size of 1280 bits).

Note 5 SS is using a DL RLC SDU size of 1152 bits as test data (=DL RLC PDU size for DL/TF2). UE will return an RLC SDU repeating the received DL RLC SDU three times (truncating the last one to fit the UL RLC SDU size of 2560 bits).

Note 6 SS is using a DL RLC SDU size of 1152 bits as test data (=DL RLC PDU size for DL/TF2). UE will return an RLC SDU repeating the received DL RLC SDU five times (truncating the last one to fit the UL RLC SDU size of 5120 bits).

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub-test 1:~~

~~a) The SS setup the radio bearer using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1. In uplink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.21 shall be used; and in downlink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.12 shall be used.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 320 bits for RAB subflow#1.~~

~~d) The SS transmits an RLC SDU of size 576 bits using transport format combination DL_TFC1 (1x576).~~

~~e) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~f) The SS open the UE test loop.~~

~~Sub-test 2:~~

~~g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 640 bits for RAB subflow#1.~~

~~i) The SS transmits an RLC SDU of size 640 bits using transport format combination DL_TFC1 (1x576).~~

~~j) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~k) The SS open the UE test loop.~~

~~Sub-test 3:~~

~~l) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~m) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1280 bits for RAB subflow#1.~~

~~n) The SS transmits an RLC SDU of size 1280 bits using transport format combination DL_TFC1 (1x576).~~

~~o) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~p) The SS open the UE test loop.~~

~~Sub-test 4:~~

~~q) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~r) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 2560 bits for RAB subflow#1.~~

~~s) The SS transmits an RLC SDU of size 2560 bits using transport format combination DL_TFC1 (1x576).~~

~~t) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~u) The SS open the UE test loop.~~

~~Sub-test 5:~~

~~v) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~x) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 5120 bits for RAB subflow#1.~~

~~y) The SS transmits an RLC SDU of size 5120 bits using transport format combination DL_TFC1 (1x576).~~

~~z) The SS checks the content of the received RLC SDU and that it is received by the correct transport format.~~

~~aa) The SS may optionally open the UE test loop.~~

~~bb) The SS may optionally release the radio bearer.~~

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 320 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: 320 bits (TF1=1x576 bits) 1xRLC PDUs, padding
6	→		UPLINK RLC SDU	UL_TFC1: 320 bits (TF1=1x320 bits)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 640 bits
11	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
12	←		DOWNLINK RLC SDU	DL_TFC1: 640 bits (TF1=1x576 bits) 2 x RLC PDUs, padding the 2nd RLC PDU
13	→		UPLINK RLC SDU	UL_TFC2: 640 (TF2=2x320 bits)
14	←		OPEN UE TEST LOOP	
15	→		OPEN UE TEST LOOP COMPLETE	
16	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9}
17	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 1280 bits
18	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
19	←		DOWNLINK RLC SDU	DL_TFC1: 1280 bits (TF1=1x576 bits) 3 x RLC PDUs, padding the 3rd RLC PDU
20	→		UPLINK RLC SDU	UL_TFC3: 1280 bits (TF3=4x320 bits)
21	←		OPEN UE TEST LOOP	
22	→		OPEN UE TEST LOOP COMPLETE	
23	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10}
24	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 2560 bits
25	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
26	←		DOWNLINK RLC SDU	DL_TFC1: 2560 bits (TF1=1x576 bits) 5 x RLC PDUs, padding the 5th RLC PDU
27	→		UPLINK RLC SDU	UL_TFC4: 2560 bits (TF4=8x320 bits)
28	←		OPEN UE TEST LOOP	
29	→		OPEN UE TEST LOOP COMPLETE	
30	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11}
31	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 5120 bits
32	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
33	←		DOWNLINK RLC SDU	DL_TFC1: 5120 bits (TF1=1x576 bits) 9 x RLC PDUs, padding the 9th RLC PDU

Step	Direction		Message	Comments
	UE	SS		
34	→		UPLINK RLC SDU	UL_TFC5: 5120 bits (TF5=16x320 bits)
35	←		OPEN UE TEST LOOP	Optional step
36	→		OPEN UE TEST LOOP COMPLETE	Optional step
37			RB RELEASE	Optional step

14.2.21.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE transmitted transport format shall be

   - for sub-test 1: RB5/TF1 (1x320).

   - for sub-test 2: RB5/TF2 (2x320).

   - for sub-test 3: RB5/TF3 (4x320).

   - for sub-test 4: RB5/TF4 (8x320).

   - for sub-test 5: RB5/TF5 (16x320).

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as the first 320 bits of the DL RLC SDU sent by the SS.

   - for sub-test 2: an RLC SDU on RB5 having the same content as the first 640 bits of the DL RLC SDU sent by the SS.

   - for sub-test 3: an RLC SDU on RB5 for which the first 1152 bits is equal to the sent DL RLC SDU and the remaining 128 bits are equal to the first 128 of the sent DL RLC SDU.

   - for sub-test 4: an RLC SDU on RB5 for which the first and second 1152 bits are equal to the sent DL RLC SDU and the remaining 256 bits are equal to the first 256 of the sent DL RLC SDU.

   - for sub-test 5: an RLC SDU on RB5 for which the first, second, third and fourth 1152 bits are equal to the sent DL RLC SDU and the remaining 512 bits are equal to the first 512 of the sent DL RLC SDU.

~~1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.~~

~~2. At step 6 the UE transmitted transport format on RAB subflow#1 shall be TF1 (1x320).~~

~~3. At step 6 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~4. At step 13 the UE transmitted transport format on RAB subflow#1 shall be TF2 (2x320).~~

~~5. At step 13 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~6. At step 20 the UE transmitted transport format on RAB subflow#1 shall be TF3 (4x320).~~

~~7. At step 20 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~8. At step 27 the UE transmitted transport format on RAB subflow#1 shall be TF4 (8x320).~~

~~9. At step 27 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

~~10. At step 34 the UE transmitted transport format on RAB subflow#1 shall be TF5 (16x320).~~

~~11. At step 34 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.~~

14.2.22 Streaming / unknown / UL:0 DL:384 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.22.1 Conformance requirement

See 14.2.4.1.

14.2.22.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.22.

To be able to test the downlink radio bearer using the UE loopback function for the reference radio bearer UL:0 DL: 128 kbps,, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.1.12 (Conversational/unknown/UL:28.8 kbps) is used in uplink. For all sub-tests UL_TFC1 is used.

14.2.22.3 Method of test

Uplink TFS:

	TFI	~~RAB subflow #1~~RB5 (28.8 kbps)	DCCH
TFS	TF0, bits	0x576	0x148
	TF1, bits	1x576	1~~0~~x148
	TF2, bits	2x576	N/A

Uplink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF0, TF1)
UL_TFC4	(TF1, TF1)
UL_TFC5	(TF2, TF1)

Downlink TFS:

	TFI	~~RAB subflow #1~~RB5 (384 kbps)	DCCH
TFS	TF0, bits	0x320	0x148
	TF1, bits	1x320	1~~0~~x148
	TF2, bits	2x320	N/A
	TF3, bits	4x320	N/A
	TF4, bits	8x320	N/A
	TF5, bits	16x320	N/A
	TF6, bits	32x320	N/A
	TF7, bits	48x320	N/A

Downlink TFCS:

TFCI	(~~RAB subflow#1~~RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF0, TF1)
DL_TFC9	(TF1, TF1)
DL_TFC10	(TF2, TF1)
DL_TFC11	(TF3, TF1)
DL_TFC12	(TF4, TF1)
DL_TFC13	(TF5, TF1)
DL_TFC14	(TF6, TF1)
DL_TFC15	(TF7, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC8, DL_TFC9, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 320	RB5: 320
2	DL_TFC2	UL_TFC1	DL_TFC0, DL_TFC8, DL_TFC10, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 640	RB5: 640
3	DL_TFC3	UL_TFC1	DL_TFC0, DL_TFC8, DL_TFC11, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 1280	RB5: 1280
4	DL_TFC4	UL_TFC1	DL_TFC0, DL_TFC8, DL_TFC12, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 2560	RB5: 2560
5	DL_TFC5	UL_TFC1	DL_TFC0, DL_TFC8, DL_TFC13, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 5120	RB5: 5120
6	DL_TFC6	UL_TFC1	DL_TFC0, DL_TFC8, DL_TFC14, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 10240	RB5: 10240
7	DL_TFC7	UL_TFC1	DL_TFC0, DL_TFC8, DL_TFC15, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 15360	RB5: 15360

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

~~Initial conditions~~

~~UE in idle mode~~

~~Test procedure~~

~~Sub-test 1:~~

~~a) The SS setup the radio bearer using the generic procedure for UE radio bearer test mode activation according to clause 14.1.1. In downlink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.22 shall be used; and in uplink the reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.12 shall be used.~~

~~b) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~c) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 320 bits for RAB subflow#1.~~

~~d) The SS transmits an RLC SDU of size 320 bits using transport format combination DL_TFC1 (1x320).~~

~~e) The SS checks the content of the received RLC SDU.~~

~~f) The SS open the UE test loop.~~

~~Sub-test 2:~~

~~g) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~h) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 640 bits for RAB subflow#1.~~

~~i) The SS transmits an RLC SDU of size 640 bits using transport format combination DL_TFC2 (2x320).~~

~~j) The SS checks the content of the received RLC SDU.~~

~~k) The SS open the UE test loop.~~

~~Sub-test 3:~~

~~l) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~m) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 1280 bits for RAB subflow#1.~~

~~n) The SS transmits an RLC SDU of size 1280 bits using transport format combination DL_TFC3 (4x320).~~

~~o) The SS checks the content of the received RLC SDU.~~

~~p) The SS open the UE test loop.~~

~~Sub-test 4:~~

~~q) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.~~

~~r) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 2560 bits for RAB subflow#1.~~

~~s) The SS transmits an RLC SDU of size 2560 bits using transport format combination DL_TFC4 (8x320).~~

~~t) The SS checks the content of the received RLC SDU.~~

~~u) The SS open the UE test loop.~~

~~Sub-test 5:~~

v) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

x) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 5120 bits for RAB subflow#1.

y) The SS transmits an RLC SDU of size 5120 bits using transport format combination DL_TFC5 (16x320).

z) The SS checks the content of the received RLC SDU.

aa) The SS open the UE test loop.

Sub-test 6:

bb) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

cc) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 10240 bits for RAB subflow#1.

dd) The SS transmits an RLC SDU of size 5120 bits using transport format combination DL_TFC6 (32x320).

ee) The SS checks the content of the received RLC SDU.

ff) The SS open the UE test loop.

Sub-test 7:

gg) The SS limits the UE allowed uplink transport format combinations to {UL_TFC0, UL_TFC1, UL_TFC4} for RAB subflow#1 using the RRC transport format combination control procedure.

hh) The SS close the test loop using UE test loop mode 1 setting UL RLC SDU size to 15360 bits for RAB subflow#1.

ii) The SS transmits an RLC SDU of size 5120 bits using transport format combination DL_TFC5 (48x320).

kk) The SS checks the content of the received RLC SDU.

ll) The SS may optionally open the UE test loop.

mm) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			UE Radio Bearer Test Mode Activation	See generic procedures in clause 14.1.1
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
3	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 320 bits
4	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
5	←		DOWNLINK RLC SDU	DL_TFC1: 320 bits (TF1=1x320 bits)
6	→		UPLINK RLC SDU	UL_TFC1: 320 bits (TF1=1x576 bits) 1xUL RLC PDU (320 bits + padding)
7	←		OPEN UE TEST LOOP	
8	→		OPEN UE TEST LOOP COMPLETE	
9	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
10	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 640 bits
11	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
12	←		DOWNLINK RLC SDU	DL_TFC2: 640 bits (TF2=2x320)
13	→		UPLINK RLC SDU	UL_TFC1: 640 bits (TF1=1x576 bits) 2xUL RLC PDU, padding the 2nd RLC PDU
14	←		OPEN UE TEST LOOP	
15	→		OPEN UE TEST LOOP COMPLETE	
16	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
17	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 1280 bits
18	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
19	←		DOWNLINK RLC SDU	DL_TFC3: 1280 bits (TF3=4x320 bits)
20	→		UPLINK RLC SDU	UL_TFC1: 1280 bits (TF1=1x576 bits) 3xRLC PDUs, padding the 3rd RLC PDU
21	←		OPEN UE TEST LOOP	
22	→		OPEN UE TEST LOOP COMPLETE	
23	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
24	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 2560 bits
25	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
26	←		DOWNLINK RLC SDU	DL_TFC4: 2560 bits (TF4=8x320 bits)
27	→		UPLINK RLC SDU	UL_TFC1: 2560 bits (TF1=1x576 bits) 5xRLC PDUs, padding the 5th RLC PDU
28	←		OPEN UE TEST LOOP	
29	→		OPEN UE TEST LOOP COMPLETE	
30	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
31	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 5120 bits
32	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
33	←		DOWNLINK RLC SDU	DL_TFC5: 5120 bits (TF5=16x320 bits)
34	→		UPLINK RLC SDU	UL_TFC1: 5120 bits (TF1=1x576 bits) 9xRLC PDUs, padding the 9th RLC PDU
35	←		OPEN UE TEST LOOP	

Step	Direction		Message	Comments
	UE	SS		
36	→		OPEN UE TEST LOOP COMPLETE	
37	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
38	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 10240 bits
39	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
40	←		DOWNLINK RLC SDU	DL_TFC6: 10240 bits (TF6=32x320 bits)
41	→		UPLINK RLC SDU	UL_TFC1: 10240 bits (TF1=1x576 bits) 18xRLC PDUs, padding the 18th RLC PDU
42	←		OPEN UE TEST LOOP	
43	→		OPEN UE TEST LOOP COMPLETE	
44	←		TRANSPORT FORMAT COMBINATION CONTROL	Transport format combinations is limited to {UL_TFC0, UL_TFC1, UL_TFC4}
45	←		CLOSE UE TEST LOOP	UE test loop mode 1 is closed using UL RLC SDU size = 15360 bits
46	→		CLOSE UE TEST LOOP COMPLETE (DCCH)	
47	←		DOWNLINK RLC SDU	DL_TFC7: 15360 bits (TF7=48x320 bits)
48	→		UPLINK RLC SDU	UL_TFC1: 15360 bits (TF1=1x576 bits) 27xRLC PDUs, padding the 27th RLC PDU
49	←		OPEN UE TEST LOOP	Optional step
50	→		OPEN UE TEST LOOP COMPLETE	Optional step
51			RB RELEASE	Optional step

14.2.22.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE shall return
   - for sub-test 1 to 7: an RLC SDU on RB5 having the same content as sent by SS.

1. At step 1 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 6 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.
3. At step 13 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.
4. At step 20 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.
5. At step 27 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.
6. At step 34 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.
7. At step 41 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.
8. At step 48 the UE shall return an RLC SDU on RAB subflow#1 with the same content as sent by SS.

14.2.23 Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.23.1 Interactive or background / UL:32 DL:8 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / (TC,10 ms TTI)

14.2.23.1.1 Conformance requirement

See 14.2.4.1.

14.2.23.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23 for the turbo channel coding and uplink 10 ms TTI case.

14.2.23.1.3 Method of test

Uplink TFS:

	TFI	RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	RB5 (8 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 336	RB5: 336

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.23.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.23.2 Interactive or background / UL:32 DL:8 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / (TC, 20 ms TTI)

14.2.23.2.1 Conformance requirement

See 14.2.4.1.

14.2.23.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23 for the turbo channel coding and uplink 20 ms TTI case.

14.2.23.2.3 Method of test

Uplink TFS:

	TFI	RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF0, TF1)
UL_TFC4	(TF1, TF1)
UL_TFC5	(TF2, TF1)

Downlink TFS:

	TFI	RB5 (8 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 336	RB5: 336
2	DL_TFC1	UL_TFC2	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 672	RB5: 672

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.23.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
3. At step 15 the UE shall return
   - for sub-test 1 and 2: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.23.3 Interactive or background / UL:32 DL:8 kbps / PS RAB / (CC, 10 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23 for the convolutional channel coding and uplink 10 ms TTI case.

See test case 14.2.23.1 for test procedure and test requirement.

14.2.23.4 Interactive or background / UL:32 DL:8 kbps / PS RAB / (CC, 20 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.23 for the convolutional channel coding and uplink 20 ms TTI case.

See test case 14.2.23.2 for test procedure and test requirement.

14.2.24 Interactive or background / UL:64 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.24.1 Conformance requirement

See 14.2.4.1.

14.2.24.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.24.

14.2.24.3 Method of test

Uplink TFS:

	TFI	**RB5 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	**(RB5, DCCH)**
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (8 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC1	UL_TFC2	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC1	UL_TFC3	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1008	RB5: 1008
4	DL_TFC1	UL_TFC4	DL_TFC0, DL_TFC2, DL_TFC3, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1344	RB5: 1344

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.24.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).
   - for sub-test 4: RB5/TF4 (4x336).

3. At step 15 the UE shall return

- for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.25 Interactive or background / UL:32 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.25.1 Interactive or background / UL:32 DL: 64 kbps / PS RAB / (TC, 10 ms TTI)

14.2.25.1.1 Conformance requirement

See 14.2.4.1.

14.2.25.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.25 for the uplink turbo channel coding and 10 ms TTI case.

14.2.25.1.3 Method of test

Uplink TFS:

	TFI	RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF0, TF1)
UL_TFC3	(TF1, TF1)

Downlink TFS:

	TFI	RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC6, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC7, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC8, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 1008	RB5: 1008
4	DL_TFC4	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC9, UL_TFC0, UL_TFC2, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3	RB5: 1344	RB5: 1344

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.25.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1 to 4: RB5/TF1 (1x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.25.2 Interactive or background / UL:32 DL: 64 kbps / PS RAB / (TC, 20 ms TTI)

14.2.25.2.1 Conformance requirement

See 14.2.4.1.

14.2.25.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.25 for the uplink turbo channel coding and 20 ms TTI case.

14.2.25.2.3 Method of test

Uplink TFS:

	TFI	RB5 (32 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF0, TF1)
UL_TFC4	(TF1, TF1)
UL_TFC5	(TF2, TF1)

Downlink TFS:

	TFI	RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC6, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC5, DL_TFC7, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC8, UL_TFC0, UL_TFC3, UL_TFC4	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4	RB5: 1008	RB5: 1008
4	DL_TFC4	UL_TFC2	DL_TFC0, DL_TFC5, DL_TFC9, UL_TFC0, UL_TFC3, UL_TFC5	UL_TFC0, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 1344	RB5: 1344

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.25.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF1 (1x336).
   - for sub-test 4: RB5/TF2 (2x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.25.3 Interactive or background / UL:32 DL:64 kbps / PS RAB / (CC, 10 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.25 for the uplink convolutional channel coding and 10 ms TTI case.

See test case 14.2.25.1 for test procedure and test requirement.

14.2.25.4 Interactive or background / UL:32 DL:64 kbps / PS RAB / (CC, 20 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.25 for the uplink convolutional channel coding and 20 ms TTI case.

See test case 14.2.25.2 for test procedure and test requirement.

14.2.26 Interactive or background / UL:64 DL: 64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.26.1 Conformance requirement

See 14.2.4.1.

14.2.26.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.26.

14.2.26.3 Method of test

Uplink TFS:

	TFI	RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC6, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC5, DL_TFC7, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC5, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1008	RB5: 1008
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC5, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1344	RB5: 1344

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.26.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).
   - for sub-test 4: RB5/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.27 Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.27.1 Conformance requirement

See 14.2.4.1.

14.2.27.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.27.

14.2.27.3 Method of test

Uplink TFS:

	TFI	RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC6, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC5, DL_TFC7, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC5, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC5, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.27.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).
   - for sub-test 4: RB5/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.28 Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.28.1 Conformance requirement

See 14.2.4.1.

14.2.28.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.28.

14.2.28.3 Method of test

Uplink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC6, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC5, DL_TFC7, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC5, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC5, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.28.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).
   - for sub-test 4: RB5/TF4 (8x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.29 Interactive or background / UL:64 DL:144 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

14.2.29.1 Conformance requirement

See 14.2.4.1.

14.2.29.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.29.

14.2.29.3 Method of test

Uplink TFS:

	TFI	RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (144 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	9x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF1)
DL_TFC6	(TF0, TF1)
DL_TFC7	(TF1, TF1)
DL_TFC8	(TF2, TF1)
DL_TFC9	(TF3, TF1)
DL_TFC10	(TF4, TF1)
DL_TFC11	(TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC7, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC6, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC6, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC6, DL_TFC10, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC3	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 3024	RB5: 3024

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.29.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).

- for sub-test 4: RB5/TF4 (8x336).

- for sub-test 5: RB5/TF3 (4x336).

3. At step 15 the UE shall return

- for sub-test 1 to 5: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.30 Interactive or background / UL:144 DL:144 kbps / PS RAB + UL:3.4 DL: 3_.4 kbps SRBs for DCCH

14.2.30.1 Conformance requirement

See 14.2.4.1.

14.2.30.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.30.

14.2.30.3 Method of test

Uplink TFS:

	TFI	**RB5 (144 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	9x336	N/A

Uplink TFCS:

TFCI	**(RB5, DCCH)**
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF5, TF1)
UL_TFC6	(TF0, TF1)
UL_TFC7	(TF1, TF1)
UL_TFC8	(TF2, TF1)
UL_TFC9	(TF3, TF1)
UL_TFC10	(TF4, TF1)
UL_TFC11	(TF5, TF1)

Downlink TFS:

	TFI	RB5 (144 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	9x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF1)
DL_TFC6	(TF0, TF1)
DL_TFC7	(TF1, TF1)
DL_TFC8	(TF2, TF1)
DL_TFC9	(TF3, TF1)
DL_TFC10	(TF4, TF1)
DL_TFC11	(TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC7, UL_TFC0, UL_TFC6, UL_TFC7	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC6, DL_TFC8, UL_TFC0, UL_TFC6, UL_TFC8	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC6, DL_TFC9, UL_TFC0, UL_TFC6, UL_TFC9	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC6, DL_TFC10, UL_TFC0, UL_TFC6, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC6, UL_TFC11	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 3024	RB5: 3024

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.30.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).
   - for sub-test 4: RB5/TF4 (8x336).
   - for sub-test 5: RB5/TF5 (9x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 5: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.31 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

14.2.31.1 Interactive or background / UL:64 DL:256 kbps / PS RAB ~~+ UL:3.4 DL: 3.4 kbps SRBs for DCCH~~ / 10 ms TTI

14.2.31.1.1 Conformance requirement

See 14.2.4.1.

14.2.31.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.31 for the downlink 10 ms TTI case.

14.2.31.1.3 Method of test

Uplink TFS:

	TFI	**RB5 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (256 kbps, 10ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF0, TF1)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF2, TF1)
DL_TFC8	(TF3, TF1)
DL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC5, DL_TFC6, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC5, DL_TFC7, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC5, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC5, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.31.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).
   - for sub-test 4: RB5/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 4: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.31.2 Interactive or background / UL:64 DL:256 kbps / PS RAB ~~+ UL:3.4 DL: 3.4 kbps SRBs for DCCH~~ / 20 ms TTI

14.2.31.2.1 Conformance requirement

See 14.2.4.1.

14.2.31.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.31 for the downlink 20 ms TTI case.

14.2.31.2.3 Method of test

Uplink TFS:

	TFI	**RB5 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (256 kbps, 20ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A
	TF6, bits	16x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF0, TF1)
DL_TFC8	(TF1, TF1)
DL_TFC9	(TF2, TF1)
DL_TFC10	(TF3, TF1)
DL_TFC11	(TF4, TF1)
DL_TFC12	(TF5, TF1)
DL_TFC13	(TF6, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC7, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC7, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC7, DL_TFC10, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC7, DL_TFC11, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC7, DL_TFC12, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 4032	RB5: 4032
6	DL_TFC6	UL_TFC4	DL_TFC0, DL_TFC7, DL_TFC13, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 5376	RB5: 5376

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.31.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).
   - for sub-test 4 to 6: RB5/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 6: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.32 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

14.2.32.1 Interactive or background / UL:64 DL:384 kbps / PS RAB ~~+ UL:3.4 DL: 3.4 kbps SRBs for DCCH~~ / 10 ms TTI

14.2.32.1.1 Conformance requirement

See 14.2.4.1.

14.2.32.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.32 for the 10 ms TTI case.

14.2.32.1.3 Method of test

Uplink TFS:

	TFI	**RB5 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	**(RB5, DCCH)**
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	**RB5 (384 kbps, 10ms)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF0, TF1)
DL_TFC7	(TF1, TF1)
DL_TFC8	(TF2, TF1)
DL_TFC9	(TF3, TF1)
DL_TFC10	(TF4, TF1)
DL_TFC11	(TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC7, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC6, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC6, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC6, DL_TFC10, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 4032	RB5: 4032

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.32.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).

- for sub-test 4 and 5: RB5/TF4 (4x336).

3. At step 15 the UE shall return

- for sub-test 1 to 5: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.32.2 Interactive or background / UL:64 DL:384 kbps / PS RAB ~~+ UL:3.4 DL: 3.4 kbps SRBs for DCCH~~ / 20 ms TTI

14.2.32.2.1 Conformance requirement

See 14.2.4.1.

14.2.32.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.32 for the 20 ms TTI case.

14.2.32.2.3 Method of test

Uplink TFS:

	TFI	**RB5 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	**(RB5, DCCH)**
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	**RB5 (384 kbps, 20ms)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A
	TF6, bits	16x336	N/A
	TF7, bits	20x336	N/A
	TF8, bits	24x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF0, TF1)
DL_TFC10	(TF1, TF1)
DL_TFC11	(TF2, TF1)
DL_TFC12	(TF3, TF1)
DL_TFC13	(TF4, TF1)
DL_TFC14	(TF5, TF1)
DL_TFC15	(TF6, TF1)
DL_TFC16	(TF7, TF1)
DL_TFC17	(TF8, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC9, DL_TFC10, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC9, DL_TFC11, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC9, DL_TFC12 UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC13, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC14, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 4032	RB5: 4032
6	DL_TFC6	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC15, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 5376	RB5: 5376
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC16, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 6720	RB5: 6720
8	DL_TFC8	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC17, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 8064	RB5: 8064

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.32.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).
   - for sub-test 4 to 8: RB5/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 8: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.33 Interactive or background / UL:128 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.33.1 Interactive or background / UL:128 DL:384 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 10 ms TTI

14.2.33.1.1 Conformance requirement

See 14.2.4.1.

14.2.33.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.33 for the 10 ms TTI case.

14.2.33.1.3 Method of test

Uplink TFS:

	TFI	**RB5 (128 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (384 kbps, 10ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF0, TF1)
DL_TFC7	(TF1, TF1)
DL_TFC8	(TF2, TF1)
DL_TFC9	(TF3, TF1)
DL_TFC10	(TF4, TF1)
DL_TFC11	(TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC7, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC6, DL_TFC8, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC6, DL_TFC9, UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC6, DL_TFC10, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 4032	RB5: 4032

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.33.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).
   - for sub-test 4 and 5: RB5/TF4 (8x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 5: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.33.2 Interactive or background / UL:128 DL:384 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 20 ms TTI

14.2.33.2.1 Conformance requirement

See 14.2.4.1.

14.2.33.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.33 for the 20 ms TTI case.

14.2.33.2.3 Method of test

Uplink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (384 kbps, 20ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A
	TF6, bits	16x336	N/A
	TF7, bits	20x336	N/A
	TF8, bits	24x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF0, TF1)
DL_TFC10	(TF1, TF1)
DL_TFC11	(TF2, TF1)
DL_TFC12	(TF3, TF1)
DL_TFC13	(TF4, TF1)
DL_TFC14	(TF5, TF1)
DL_TFC15	(TF6, TF1)
DL_TFC16	(TF7, TF1)
DL_TFC17	(TF8, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC9, DL_TFC10, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC9, DL_TFC11, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC9, DL_TFC12 UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC13, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC14, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 4032	RB5: 4032
6	DL_TFC6	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC15, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 5376	RB5: 5376
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC16, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 6720	RB5: 6720
8	DL_TFC8	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC17, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4 UL_TFC5, UL_TFC9	RB5: 8064	RB5: 8064

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.33.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).
   - for sub-test 4 to 8: RB5/TF4 (8x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 8: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.34 Interactive or background / UL:384 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.34.1 Interactive or background / UL:384 DL:384 kbps / PS RAB / 10 ms TTI~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH / 10 ms TTI~~

14.2.34.1.1 Conformance requirement

See 14.2.4.1.

14.2.34.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.34 for the 10 ms TTI case.

14.2.34.1.3 Method of test

Uplink TFS:

	TFI	**RB5 (384 kbps, 10ms)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF5, TF0)
UL_TFC6	(TF0, TF1)
UL_TFC7	(TF1, TF1)
UL_TFC8	(TF2, TF1)
UL_TFC9	(TF3, TF1)
UL_TFC10	(TF4, TF1)
UL_TFC11	(TF5, TF1)

Downlink TFS:

	TFI	RB5 (384 kbps, 10ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF0, TF1)
DL_TFC7	(TF1, TF1)
DL_TFC8	(TF2, TF1)
DL_TFC9	(TF3, TF1)
DL_TFC10	(TF4, TF1)
DL_TFC11	(TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC7, DL_TFC8, UL_TFC0, UL_TFC7, UL_TFC8	UL_TFC0, UL_TFC1, UL_TFC7, UL_TFC8	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC7, DL_TFC9, UL_TFC0, UL_TFC7, UL_TFC9	UL_TFC0, UL_TFC2, UL_TFC7, UL_TFC9	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC7, DL_TFC10, UL_TFC0, UL_TFC7, UL_TFC10	UL_TFC0, UL_TFC3, UL_TFC7, UL_TFC10	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC7, DL_TFC11, UL_TFC0, UL_TFC7, UL_TFC11	UL_TFC0, UL_TFC4, UL_TFC7, UL_TFC11	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC7, DL_TFC12, UL_TFC0, UL_TFC7, UL_TFC12	UL_TFC0, UL_TFC5, UL_TFC7, UL_TFC12	RB5: 4032	RB5: 4032

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.34.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).
   - for sub-test 4: RB5/TF4 (8x336).
   - for sub-test 5: RB5/TF4 (12x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 5: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.34.2 Interactive or background / UL:384 DL:384 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / ~~20~~ 20 ms TTI

14.2.34.2.1 Conformance requirement

See 14.2.4.1.

14.2.34.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.34. for the 20 ms TTI case

14.2.34.2.3 Method of test

Uplink TFS:

	TFI	RB5 (384 kbps, 20ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A
	TF6, bits	16x336	N/A
	TF7, bits	20x336	N/A
	TF8, bits	24x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF5, TF0)
UL_TFC6	(TF6, TF0)
UL_TFC7	(TF7, TF0)
UL_TFC8	(TF8, TF0)
UL_TFC9	(TF0, TF1)
UL_TFC10	(TF1, TF1)
UL_TFC11	(TF2, TF1)
UL_TFC12	(TF3, TF1)
UL_TFC13	(TF4, TF1)
UL_TFC14	(TF5, TF1)
UL_TFC15	(TF6, TF1)
UL_TFC16	(TF7, TF1)
UL_TFC17	(TF8, TF1)

Downlink TFS:

	TFI	RB5 (384 kbps, 20ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A
	TF6, bits	16x336	N/A
	TF7, bits	20x336	N/A
	TF8, bits	24x336	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF0, TF1)
DL_TFC10	(TF1, TF1)
DL_TFC11	(TF2, TF1)
DL_TFC12	(TF3, TF1)
DL_TFC13	(TF4, TF1)
DL_TFC14	(TF5, TF1)
DL_TFC15	(TF6, TF1)
DL_TFC16	(TF7, TF1)
DL_TFC17	(TF8, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC9, DL_TFC10, UL_TFC0, UL_TFC9, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10	RB5: 336	RB5: 336
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC9, DL_TFC11, UL_TFC0, UL_TFC9, UL_TFC11	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11	RB5: 672	RB5: 672
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC9, DL_TFC12 UL_TFC0, UL_TFC9, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 1344	RB5: 1344
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC9, DL_TFC13, UL_TFC0, UL_TFC9, UL_TFC13	UL_TFC0, UL_TFC4, UL_TFC9, UL_TFC13	RB5: 2688	RB5: 2688
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC9, DL_TFC14, UL_TFC0, UL_TFC9, UL_TFC14	UL_TFC0, UL_TFC5, UL_TFC9, UL_TFC14	RB5: 4032	RB5: 4032
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC9, DL_TFC15, UL_TFC0, UL_TFC9, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC9, UL_TFC15	RB5: 5376	RB5: 5376
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC9, DL_TFC16, UL_TFC0, UL_TFC9, UL_TFC16	UL_TFC0, UL_TFC7, UL_TFC9, UL_TFC16	RB5: 6720	RB5: 6720
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC9, DL_TFC17, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 8064	RB5: 8064

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.34.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).
   - for sub-test 4: RB5/TF4 (8x336).
   - for sub-test 5: RB5/TF5 (12x336).
   - for sub-test 6: RB5/TF6 (16x336).
   - for sub-test 7: RB5/TF7 (20x336).
   - for sub-test 8: RB5/TF8 (24x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 8: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.35 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.35.1 Interactive or background / UL:64 DL:2048 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 10 ms TTI

14.2.35.1.1 Conformance requirement

See 14.2.4.1.

14.2.35.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.35 for the 10 ms TTI case.

14.2.35.1.3 Method of test

Uplink TFS:

	TFI	**RB5 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (2048 kbps, 10ms)	DCCH
TFS	TF0, bits	0x656	0x148
	TF1, bits	1x656	1x148
	TF2, bits	2x656	N/A
	TF3, bits	4x656	N/A
	TF4, bits	8x656	N/A
	TF5, bits	12x656	N/A
	TF6, bits	16x656	N/A
	TF7, bits	20x656	N/A
	TF8, bits	24x656	N/A
	TF9, bits	28x656	N/A
	TF10, bits	32x656	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF9, TF0)
DL_TFC10	(TF10, TF0)
DL_TFC11	(TF0, TF1)
DL_TFC12	(TF1, TF1)
DL_TFC13	(TF2, TF1)
DL_TFC14	(TF3, TF1)
DL_TFC15	(TF4, TF1)
DL_TFC16	(TF5, TF1)
DL_TFC17	(TF6, TF1)
DL_TFC18	(TF7, TF1)
DL_TFC19	(TF8, TF1)
DL_TFC20	(TF9, TF1)
DL_TFC21	(TF10, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC11, DL_TFC12, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 656	RB5: 656
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC11, DL_TFC13, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 1312	RB5: 1312
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC11, DL_TFC14 UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 2624	RB5: 2624
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC15, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 5248	RB5: 5248
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC16, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 7872	RB5: 7872
6	DL_TFC6	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC17, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 10496	RB5: 10496
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC18, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 13120	RB5: 13120
8	DL_TFC8	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 15744	RB5: 15744
9	DL_TFC9	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 18368	RB5: 18368
10	DL_TFC10	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 20992	RB5: 20992

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.35.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).

- for sub-test 3: RB5/TF3 (3x336).

- for sub-test 4 to 10: RB5/TF4 (4x336).

3. At step 15 the UE shall return

- for sub-test 1 to 10: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.35.2 Interactive or background / UL:64 DL:2048 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 20 ms TTI

14.2.35.2.1 Conformance requirement

See 14.2.4.1.

14.2.35.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.35 for the 20 ms TTI case.

14.2.35.2.3 Method of test

Uplink TFS:

	TFI	RB5 (64 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (2048 kbps, 10ms)	DCCH
TFS	TF0, bits	0x656	0x148
	TF1, bits	1x656	1x148
	TF2, bits	2x656	N/A
	TF3, bits	4x656	N/A
	TF4, bits	8x656	N/A
	TF5, bits	12x656	N/A
	TF6, bits	16x656	N/A
	TF7, bits	20x656	N/A
	TF8, bits	24x656	N/A
	TF9, bits	28x656	N/A
	TF10, bits	32x656	N/A
	TF11, bits	36x656	N/A
	TF12, bits	40x656	N/A
	TF13, bits	44x656	N/A
	TF14, bits	48x656	N/A
	TF15, bits	52x656	N/A
	TF16, bits	56x656	N/A
	TF17, bits	60x656	N/A
	TF18, bits	64x656	N/A

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Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF9, TF0)
DL_TFC10	(TF10, TF0)
DL_TFC11	(TF11, TF0)
DL_TFC12	(TF12, TF0)
DL_TFC13	(TF13, TF0)
DL_TFC14	(TF14, TF0)
DL_TFC15	(TF15, TF0)
DL_TFC16	(TF16, TF0)
DL_TFC17	(TF17, TF0)
DL_TFC18	(TF18, TF0)
DL_TFC19	(TF0, TF1)
DL_TFC20	(TF1, TF1)
DL_TFC21	(TF2, TF1)
DL_TFC22	(TF3, TF1)
DL_TFC23	(TF4, TF1)
DL_TFC24	(TF5, TF1)
DL_TFC25	(TF6, TF1)
DL_TFC26	(TF7, TF1)
DL_TFC27	(TF8, TF1)
DL_TFC28	(TF9, TF1)
DL_TFC29	(TF10, TF1)
DL_TFC30	(TF11, TF1)
DL_TFC31	(TF12, TF1)
DL_TFC32	(TF13, TF1)
DL_TFC33	(TF14, TF1)
DL_TFC34	(TF15, TF1)
DL_TFC35	(TF16, TF1)
DL_TFC36	(TF17, TF1)
DL_TFC37	(TF18, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC19, DL_TFC20, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 656	RB5: 656
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC19, DL_TFC21, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 1312	RB5: 1312
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC19, DL_TFC22 UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 2624	RB5: 2624
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC23, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 5248	RB5: 5248
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC24, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 7872	RB5: 7872
6	DL_TFC6	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC25, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 10496	RB5: 10496
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC26, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 13120	RB5: 13120
8	DL_TFC8	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC27, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 15744	RB5: 15744
9	DL_TFC9	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC28, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 18368	RB5: 18368
10	DL_TFC10	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC29, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 20992	RB5: 20992
11	DL_TFC11	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC30, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 23616	RB5: 23616
12	DL_TFC12	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC31, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 26240	RB5: 26240
13	DL_TFC13	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC32, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4 UL_TFC5, UL_TFC9	RB5: 28864	RB5: 28864
14	DL_TFC14	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC33, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 31488	RB5: 31488
15	DL_TFC15	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC34, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 34112	RB5: 34112

16	DL_TFC16	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC35, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 36736	RB5: 36736
17	DL_TFC17	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC36, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4 UL_TFC5, UL_TFC9	RB5: 39360	RB5: 39360
18	DL_TFC18	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC37, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 41984	RB5: 41984

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.35.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (3x336).
   - for sub-test 4 to 18: RB5/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 18: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.36 Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.36.1 Interactive or background / UL:128 DL:2048 kbps / PS RAB / 10 ms TTI

14.2.36.1.1 Conformance requirement

See 14.2.4.1.

14.2.36.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.36 for the 10 ms TTI case.

14.2.36.1.3 Method of test

Uplink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (2048 kbps, 10ms)	DCCH
TFS	TF0, bits	0x656	0x148
	TF1, bits	1x656	1x148
	TF2, bits	2x656	N/A
	TF3, bits	4x656	N/A
	TF4, bits	8x656	N/A
	TF5, bits	12x656	N/A
	TF6, bits	16x656	N/A
	TF7, bits	20x656	N/A
	TF8, bits	24x656	N/A
	TF9, bits	28x656	N/A
	TF10, bits	32x656	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF9, TF0)
DL_TFC10	(TF10, TF0)
DL_TFC11	(TF0, TF1)
DL_TFC12	(TF1, TF1)
DL_TFC13	(TF2, TF1)
DL_TFC14	(TF3, TF1)
DL_TFC15	(TF4, TF1)
DL_TFC16	(TF5, TF1)
DL_TFC17	(TF6, TF1)
DL_TFC18	(TF7, TF1)
DL_TFC19	(TF8, TF1)
DL_TFC20	(TF9, TF1)
DL_TFC21	(TF10, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC11, DL_TFC12, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 656	RB5: 656
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC11, DL_TFC13, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 1312	RB5: 1312
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC11, DL_TFC14 UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 2624	RB5: 2624
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC15, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 5248	RB5: 5248
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC16, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 7872	RB5: 7872
6	DL_TFC6	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC17, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 10496	RB5: 10496
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC18, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 13120	RB5: 13120
8	DL_TFC8	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 15744	RB5: 15744
9	DL_TFC9	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 18368	RB5: 18368
10	DL_TFC10	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 20992	RB5: 20992

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.36.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).

- for sub-test 3: RB5/TF3 (4x336).

- for sub-test 4 to 10: RB5/TF4 (8x336).

3. At step 15 the UE shall return

- for sub-test 1 to 10: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.36.2 Interactive or background / UL:128 DL:2048 kbps / PS RAB / 20 ms TTI

14.2.36.2.1 Conformance requirement

See 14.2.4.1.

14.2.36.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.36 for the 20 ms TTI case.

14.2.36.2.3 Method of test

Uplink TFS:

	TFI	**RB5 (128 kbps)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Uplink TFCS:

TFCI	**(RB5, DCCH)**
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Downlink TFS:

	TFI	RB5 (2048 kbps, 10ms)	DCCH
TFS	TF0, bits	0x656	0x148
	TF1, bits	1x656	1x148
	TF2, bits	2x656	N/A
	TF3, bits	4x656	N/A
	TF4, bits	8x656	N/A
	TF5, bits	12x656	N/A
	TF6, bits	16x656	N/A
	TF7, bits	20x656	N/A
	TF8, bits	24x656	N/A
	TF9, bits	28x656	N/A
	TF10, bits	32x656	N/A
	TF11, bits	36x656	N/A
	TF12, bits	40x656	N/A
	TF13, bits	44x656	N/A
	TF14, bits	48x656	N/A
	TF15, bits	52x656	N/A
	TF16, bits	56x656	N/A
	TF17, bits	60x656	N/A
	TF18, bits	64x656	N/A

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Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF9, TF0)
DL_TFC10	(TF10, TF0)
DL_TFC11	(TF11, TF0)
DL_TFC12	(TF12, TF0)
DL_TFC13	(TF13, TF0)
DL_TFC14	(TF14, TF0)
DL_TFC15	(TF15, TF0)
DL_TFC16	(TF16, TF0)
DL_TFC17	(TF17, TF0)
DL_TFC18	(TF18, TF0)
DL_TFC19	(TF0, TF1)
DL_TFC20	(TF1, TF1)
DL_TFC21	(TF2, TF1)
DL_TFC22	(TF3, TF1)
DL_TFC23	(TF4, TF1)
DL_TFC24	(TF5, TF1)
DL_TFC25	(TF6, TF1)
DL_TFC26	(TF7, TF1)
DL_TFC27	(TF8, TF1)
DL_TFC28	(TF9, TF1)
DL_TFC29	(TF10, TF1)
DL_TFC30	(TF11, TF1)
DL_TFC31	(TF12, TF1)
DL_TFC32	(TF13, TF1)
DL_TFC33	(TF14, TF1)
DL_TFC34	(TF15, TF1)
DL_TFC35	(TF16, TF1)
DL_TFC36	(TF17, TF1)
DL_TFC37	(TF18, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC19, DL_TFC20, UL_TFC0, UL_TFC5, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 656	RB5: 656
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC19, DL_TFC21, UL_TFC0, UL_TFC5, UL_TFC7	UL_TFC0, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 1312	RB5: 1312
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC19, DL_TFC22 UL_TFC0, UL_TFC5, UL_TFC8	UL_TFC0, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 2624	RB5: 2624
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC23, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 5248	RB5: 5248
5	DL_TFC5	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC24, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 7872	RB5: 7872
6	DL_TFC6	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC25, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 10496	RB5: 10496
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC26, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 13120	RB5: 13120
8	DL_TFC8	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC27, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 15744	RB5: 15744
9	DL_TFC9	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC28, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 18368	RB5: 18368
10	DL_TFC10	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC29, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 20992	RB5: 20992
11	DL_TFC11	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC30, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 23616	RB5: 23616
12	DL_TFC12	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC31, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 26240	RB5: 26240
13	DL_TFC13	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC32, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 28864	RB5: 28864
14	DL_TFC14	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC33, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 31488	RB5: 31488
15	DL_TFC15	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC34, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 34112	RB5: 34112

16	DL_TFC16	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC35, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 36736	RB5: 36736
17	DL_TFC17	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC36, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 39360	RB5: 39360
18	DL_TFC18	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC37, UL_TFC0, UL_TFC5, UL_TFC9	UL_TFC0, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 41984	RB5: 41984

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.36.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).
   - for sub-test 4 to 18: RB5/TF4 (8x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 18: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.37 Interactive or background / UL:384 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.37.1 Interactive or background / UL:384 DL:2048 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 10 ms TTI

14.2.37.1.1 Conformance requirement

See 14.2.4.1.

14.2.37.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.37 for the 10 ms TTI case.

14.2.37.1.3 Method of test

Uplink TFS:

	TFI	RB5 (384 kbps, 10ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF5, TF0)
UL_TFC6	(TF0, TF1)
UL_TFC7	(TF1, TF1)
UL_TFC8	(TF2, TF1)
UL_TFC9	(TF3, TF1)
UL_TFC10	(TF4, TF1)
UL_TFC11	(TF5, TF1)

Downlink TFS:

	TFI	RB5 (2048 kbps, 10ms)	DCCH
TFS	TF0, bits	0x656	0x148
	TF1, bits	1x656	1x148
	TF2, bits	2x656	N/A
	TF3, bits	4x656	N/A
	TF4, bits	8x656	N/A
	TF5, bits	12x656	N/A
	TF6, bits	16x656	N/A
	TF7, bits	20x656	N/A
	TF8, bits	24x656	N/A
	TF9, bits	28x656	N/A
	TF10, bits	32x656	N/A

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF9, TF0)
DL_TFC10	(TF10, TF0)
DL_TFC11	(TF0, TF1)
DL_TFC12	(TF1, TF1)
DL_TFC13	(TF2, TF1)
DL_TFC14	(TF3, TF1)
DL_TFC15	(TF4, TF1)
DL_TFC16	(TF5, TF1)
DL_TFC17	(TF6, TF1)
DL_TFC18	(TF7, TF1)
DL_TFC19	(TF8, TF1)
DL_TFC20	(TF9, TF1)
DL_TFC21	(TF10, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC11, DL_TFC12, UL_TFC0, UL_TFC6, UL_TFC7	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 656	RB5: 656
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC11, DL_TFC13, UL_TFC0, UL_TFC6, UL_TFC8	UL_TFC0, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 1312	RB5: 1312
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC11, DL_TFC14 UL_TFC0, UL_TFC6, UL_TFC9	UL_TFC0, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 2624	RB5: 2624
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC11, DL_TFC15, UL_TFC0, UL_TFC6, UL_TFC10	UL_TFC0, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 5248	RB5: 5248
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC11, DL_TFC16, UL_TFC0, UL_TFC6, UL_TFC11	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 7872	RB5: 7872
6	DL_TFC6	UL_TFC5	DL_TFC0, DL_TFC11, DL_TFC17, UL_TFC0, UL_TFC6, UL_TFC11	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 10496	RB5: 10496
7	DL_TFC7	UL_TFC5	DL_TFC0, DL_TFC11, DL_TFC18, UL_TFC0, UL_TFC6, UL_TFC11	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 13120	RB5: 13120
8	DL_TFC8	UL_TFC5	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC6, UL_TFC11	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 15744	RB5: 15744
9	DL_TFC9	UL_TFC5	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC6, UL_TFC11	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 18368	RB5: 18368
10	DL_TFC10	UL_TFC5	DL_TFC0, DL_TFC11, DL_TFC19, UL_TFC0, UL_TFC6, UL_TFC11	UL_TFC0, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 20992	RB5: 20992

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.37.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).

- for sub-test 3: RB5/TF3 (4x336).
- for sub-test 4: RB5/TF3 (8x336).
- for sub-test 5 to 10: RB5/TF4 (12x336).

3. At step 15 the UE shall return
   - for sub-test 1 to 10: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.37.2 Interactive or background / UL:384 DL:2048 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 20 ms TTI

14.2.37.2.1 Conformance requirement

See 14.2.4.1.

14.2.37.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.37 for the 20 ms TTI case.

14.2.37.2.3 Method of test

Uplink TFS:

	TFI	**RB5 (384 kbps, 20ms)**	**DCCH**
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A
	TF6, bits	16x336	N/A
	TF7, bits	20x336	N/A
	TF8, bits	24x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF5, TF0)
UL_TFC6	(TF6, TF0)
UL_TFC7	(TF7, TF0)
UL_TFC8	(TF8, TF0)
UL_TFC9	(TF0, TF1)
UL_TFC10	(TF1, TF1)
UL_TFC11	(TF2, TF1)
UL_TFC12	(TF3, TF1)
UL_TFC13	(TF4, TF1)
UL_TFC14	(TF5, TF1)
UL_TFC15	(TF6, TF1)
UL_TFC16	(TF7, TF1)
UL_TFC17	(TF8, TF1)

Downlink TFS:

	TFI	RB5 (2048 kbps, 10ms)	DCCH
TFS	TF0, bits	0x656	0x148
	TF1, bits	1x656	1x148
	TF2, bits	2x656	N/A
	TF3, bits	4x656	N/A
	TF4, bits	8x656	N/A
	TF5, bits	12x656	N/A
	TF6, bits	16x656	N/A
	TF7, bits	20x656	N/A
	TF8, bits	24x656	N/A
	TF9, bits	28x656	N/A
	TF10, bits	32x656	N/A
	TF11, bits	36x656	N/A
	TF12, bits	40x656	N/A
	TF13, bits	44x656	N/A
	TF14, bits	48x656	N/A
	TF15, bits	52x656	N/A
	TF16, bits	56x656	N/A
	TF17, bits	60x656	N/A
	TF18, bits	64x656	N/A

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Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF2, TF0)
DL_TFC3	(TF3, TF0)
DL_TFC4	(TF4, TF0)
DL_TFC5	(TF5, TF0)
DL_TFC6	(TF6, TF0)
DL_TFC7	(TF7, TF0)
DL_TFC8	(TF8, TF0)
DL_TFC9	(TF9, TF0)
DL_TFC10	(TF10, TF0)
DL_TFC11	(TF11, TF0)
DL_TFC12	(TF12, TF0)
DL_TFC13	(TF13, TF0)
DL_TFC14	(TF14, TF0)
DL_TFC15	(TF15, TF0)
DL_TFC16	(TF16, TF0)
DL_TFC17	(TF17, TF0)
DL_TFC18	(TF18, TF0)
DL_TFC19	(TF0, TF1)
DL_TFC20	(TF1, TF1)
DL_TFC21	(TF2, TF1)
DL_TFC22	(TF3, TF1)
DL_TFC23	(TF4, TF1)
DL_TFC24	(TF5, TF1)
DL_TFC25	(TF6, TF1)
DL_TFC26	(TF7, TF1)
DL_TFC27	(TF8, TF1)
DL_TFC28	(TF9, TF1)
DL_TFC29	(TF10, TF1)
DL_TFC30	(TF11, TF1)
DL_TFC31	(TF12, TF1)
DL_TFC32	(TF13, TF1)
DL_TFC33	(TF14, TF1)
DL_TFC34	(TF15, TF1)
DL_TFC35	(TF16, TF1)
DL_TFC36	(TF17, TF1)
DL_TFC37	(TF18, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC19, DL_TFC20, UL_TFC0, UL_TFC9, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10	RB5: 656	RB5: 656
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC19, DL_TFC21, UL_TFC0, UL_TFC9, UL_TFC11	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11	RB5: 1312	RB5: 1312
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC19, DL_TFC22 UL_TFC0, UL_TFC9, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 2624	RB5: 2624
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC19, DL_TFC23, UL_TFC0, UL_TFC9, UL_TFC13	UL_TFC0, UL_TFC4, UL_TFC9, UL_TFC13	RB5: 5248	RB5: 5248
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC19, DL_TFC24, UL_TFC0, UL_TFC9, UL_TFC14	UL_TFC0, UL_TFC5, UL_TFC9, UL_TFC14	RB5: 7872	RB5: 7872
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC19, DL_TFC25, UL_TFC0, UL_TFC9, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC9, UL_TFC15	RB5: 10496	RB5: 10496
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC19, DL_TFC26, UL_TFC0, UL_TFC9, UL_TFC16	UL_TFC0, UL_TFC7, UL_TFC9, UL_TFC16	RB5: 13120	RB5: 13120
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC27, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 15744	RB5: 15744
9	DL_TFC9	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC28, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 18368	RB5: 18368
10	DL_TFC10	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC29, UL_TFC0, UL_TFC9 UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 20992	RB5: 20992
11	DL_TFC11	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC30, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 23616	RB5: 23616
12	DL_TFC12	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC31, UL_TFC0, UL_TFC5, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 26240	RB5: 26240
13	DL_TFC13	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC32, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 28864	RB5: 28864
14	DL_TFC14	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC33, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 31488	RB5: 31488
15	DL_TFC15	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC34, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 34112	RB5: 34112

16	DL_TFC16	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC35, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 36736	RB5: 36736
17	DL_TFC17	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC36, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 39360	RB5: 39360
18	DL_TFC18	UL_TFC8	DL_TFC0, DL_TFC19, DL_TFC37, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 41984	RB5: 41984

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.37.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x336).
   - for sub-test 2: RB5/TF2 (2x336).
   - for sub-test 3: RB5/TF3 (4x336).
   - for sub-test 4: RB5/TF4 (8336).
   - for sub-test 5: RB5/TF5 (12x336).
   - for sub-test 6: RB5/TF6 (16x336).
   - for sub-test 7: RB5/TF7 (20x336).
   - for sub-test 8 to 18: RB5/TF4 (24x336).
3. At step 15 the UE shall return
   - for sub-test 1 to 18: an RLC SDU on RB5 having the same content as the DL RLC SDU sent by the SS.

14.2.38 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.38.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (TC, 20 ms TTI)

14.2.38.1.1 Conformance requirement

See 14.2.4.1.

14.2.38.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the turbo channel coding and 20 ms TTI case.

14.2.38.1.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (32 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF0, TF1)
UL_TFC10	(TF1, TF0, TF0, TF0, TF1)
UL_TFC11	(TF2, TF1, TF1, TF0, TF1)
UL_TFC12	(TF0, TF0, TF0, TF1, TF1)
UL_TFC13	(TF1, TF0, TF0, TF1, TF1)
UL_TFC14	(TF2, TF1, TF1, TF1, TF1)
UL_TFC15	(TF0, TF0, TF0, TF2, TF1)
UL_TFC16	(TF1, TF0, TF0, TF2, TF1)
UL_TFC17	(TF2, TF1, TF1, TF2, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (8 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF0, TF1)
DL_TFC7	(TF1, TF0, TF0, TF0, TF1)
DL_TFC8	(TF2, TF1, TF1, TF0, TF1)
DL_TFC9	(TF0, TF0, TF0, TF1, TF1)
DL_TFC10	(TF1, TF0, TF0, TF1, TF1)
DL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC6, DL_TFC7, UL_TFC0, UL_TFC9, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC6, DL_TFC8, UL_TFC0, UL_TFC9, UL_TFC11	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC6, DL_TFC9, UL_TFC0, UL_TFC9, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC6, DL_TFC10, UL_TFC0, UL_TFC9, UL_TFC13	UL_TFC0, UL_TFC4, UL_TFC9, UL_TFC13	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC9, UL_TFC14	UL_TFC0, UL_TFC5, UL_TFC9, UL_TFC14	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC5	UL_TFC6	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC9, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC9, UL_TFC15	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC5	UL_TFC7	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC9, UL_TFC16	UL_TFC0, UL_TFC7, UL_TFC9, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC5	UL_TFC8	DL_TFC0, DL_TFC6, DL_TFC11, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.38.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step 15 the UE transmitted transport format shall be

   - for sub-test 1: RB5/TF1 (1x39).

   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).

   - for sub-test 3: RB8/TF1 (1x336)

   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).

   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).

   - for sub-test 6: RB8/TF2 (2x336)

   - for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).

   - for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).

3. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.

   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

   - for sub-test 3 and 6: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.

   - for sub-test 4 and 7: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

   - for sub-test 5 and 8: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.38.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (TC, 10 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the turbo channel coding and 10 ms TTI case.

See 14.2.38.1 for test procedure and test requirements. Only sub-tests 1 to 5 are applicable for the 10 ms TTI case.

14.2.38.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (CC, 20 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the convolutional channel coding and 20 ms TTI case.

See test case 14.2.38.1 for test procedure and test requirement.

14.2.38.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:8 kbps / PS RAB / (CC, 10 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.38 for the convolutional channel coding and 10 ms TTI case.

See test case 14.2.38.2 for test procedure and test requirement.

14.2.39 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

14.2.39.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB / (TC, 10 ms TTI)

14.2.39.1.1 Conformance requirement

See 14.2.4.1.

14.2.39.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.39 for the uplink turbo channel coding and 10 ms TTI case.

14.2.39.1.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (32 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF0, TF1)
UL_TFC7	(TF1, TF0, TF0, TF0, TF1)
UL_TFC8	(TF2, TF1, TF1, TF0, TF1)
UL_TFC9	(TF0, TF0, TF0, TF1, TF1)
UL_TFC10	(TF1, TF0, TF0, TF1, TF1)
UL_TFC11	(TF2, TF1, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC15, DL_TFC16, UL_TFC0, UL_TFC9, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC15, DL_TFC17, UL_TFC0, UL_TFC9, UL_TFC11	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC18, UL_TFC0, UL_TFC9, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC19, UL_TFC0, UL_TFC9, UL_TFC13	UL_TFC0, UL_TFC4, UL_TFC9, UL_TFC13	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC20, UL_TFC0, UL_TFC9, UL_TFC14	UL_TFC0, UL_TFC5, UL_TFC9, UL_TFC14	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC6	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC21, UL_TFC0, UL_TFC9, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC7	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC22, UL_TFC0, UL_TFC9, UL_TFC13	UL_TFC0, UL_TFC4, UL_TFC9, UL_TFC13	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC8	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC23, UL_TFC0, UL_TFC9, UL_TFC14	UL_TFC0, UL_TFC5, UL_TFC9, UL_TFC14	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672
9	DL_TFC9	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC24, UL_TFC0, UL_TFC9, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 39 RB6: 103 RB7: 60 RB8: 1008	RB5: No data RB6: No data RB7: No data RB8: 1008
10	DL_TFC10	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC25, UL_TFC0, UL_TFC9, UL_TFC13	UL_TFC0, UL_TFC4, UL_TFC9, UL_TFC13	RB5: 39 RB6: 103 RB7: 60 RB8: 1008	RB5: 39 RB6: No data RB7: No data RB8: 1008
11	DL_TFC11	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC26, UL_TFC0, UL_TFC9, UL_TFC14	UL_TFC0, UL_TFC5, UL_TFC9, UL_TFC14	RB5: 81 RB6: 103 RB7: 60 RB8: 1008	RB5: 81 RB6: 103 RB7: 60 RB8: 1008
12	DL_TFC12	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC27, UL_TFC0, UL_TFC9, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: No data RB6: No data RB7: No data RB8: 1344
13	DL_TFC13	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC28, UL_TFC0, UL_TFC9, UL_TFC13	UL_TFC0, UL_TFC4, UL_TFC9, UL_TFC13	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: 39 RB6: No data RB7: No data RB8: 1344
14	DL_TFC14	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC29, UL_TFC0, UL_TFC9, UL_TFC14	UL_TFC0, UL_TFC5, UL_TFC9, UL_TFC14	RB5: 81 RB6: 103 RB7: 60 RB8: 1344	RB5: 81 RB6: 103 RB7: 60 RB8: 1344

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.39.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3, 6, 9 and 12: RB8/TF1 (1x336)
   - for sub-test 4, 7, 10 and 13: RB5/TF1 (1x39) and RB8/TF1 (1x336).
   - for sub-test 5, 8, 11 and 14: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
   - for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
   - for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.39.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB / (TC, 20 ms TTI)

14.2.39.2.1 Conformance requirement

See 14.2.4.1.

14.2.39.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.39 for the uplink turbo channel coding and 20 ms TTI case.

14.2.39.2.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (32 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF0, TF1)
UL_TFC10	(TF1, TF0, TF0, TF0, TF1)
UL_TFC11	(TF2, TF1, TF1, TF0, TF1)
UL_TFC12	(TF0, TF0, TF0, TF1, TF1)
UL_TFC13	(TF1, TF0, TF0, TF1, TF1)
UL_TFC14	(TF2, TF1, TF1, TF1, TF1)
UL_TFC15	(TF0, TF0, TF0, TF2, TF1)
UL_TFC16	(TF1, TF0, TF0, TF2, TF1)
UL_TFC17	(TF2, TF1, TF1, TF2, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC15, DL_TFC16, UL_TFC0, UL_TFC9, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC10	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC15, DL_TFC17, UL_TFC0, UL_TFC9, UL_TFC11	UL_TFC0, UL_TFC2, UL_TFC9, UL_TFC11	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC18, UL_TFC0, UL_TFC9, UL_TFC12	UL_TFC0, UL_TFC3, UL_TFC9, UL_TFC12	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC19, UL_TFC0, UL_TFC9, UL_TFC13	UL_TFC0, UL_TFC4, UL_TFC9, UL_TFC13	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC20, UL_TFC0, UL_TFC9, UL_TFC14	UL_TFC0, UL_TFC5, UL_TFC9, UL_TFC14	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC15, DL_TFC21, UL_TFC0, UL_TFC9, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC9, UL_TFC15	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC15, DL_TFC22, UL_TFC0, UL_TFC9, UL_TFC16	UL_TFC0, UL_TFC7, UL_TFC9, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC15, DL_TFC23, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672
9	DL_TFC9	UL_TFC6	DL_TFC0, DL_TFC15, DL_TFC24, UL_TFC0, UL_TFC9, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC9, UL_TFC15	RB5: 39 RB6: 103 RB7: 60 RB8: 1008	RB5: No data RB6: No data RB7: No data RB8: 1008
10	DL_TFC10	UL_TFC7	DL_TFC0, DL_TFC15, DL_TFC25, UL_TFC0, UL_TFC9, UL_TFC16	UL_TFC0, UL_TFC7, UL_TFC9, UL_TFC15	RB5: 39 RB6: 103 RB7: 60 RB8: 1008	RB5: 39 RB6: No data RB7: No data RB8: 1008
11	DL_TFC11	UL_TFC8	DL_TFC0, DL_TFC15, DL_TFC26, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 1008	RB5: 81 RB6: 103 RB7: 60 RB8: 1008
12	DL_TFC12	UL_TFC6	DL_TFC0, DL_TFC15, DL_TFC27, UL_TFC0, UL_TFC9, UL_TFC15	UL_TFC0, UL_TFC6, UL_TFC9, UL_TFC15	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: No data RB6: No data RB7: No data RB8: 1344
13	DL_TFC13	UL_TFC7	DL_TFC0, DL_TFC15, DL_TFC28, UL_TFC0, UL_TFC9, UL_TFC16	UL_TFC0, UL_TFC7, UL_TFC9, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: 39 RB6: No data RB7: No data RB8: 1344
14	DL_TFC14	UL_TFC8	DL_TFC0, DL_TFC15, DL_TFC29, UL_TFC0, UL_TFC9, UL_TFC17	UL_TFC0, UL_TFC8, UL_TFC9, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 1344	RB5: 81 RB6: 103 RB7: 60 RB8: 1344

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.39.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3: RB8/TF1 (1x336)
   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
   - for sub-test 6, 9 and 12: RB8/TF2 (2x336)
   - for sub-test 7, 10 and 13: RB5/TF1 (1x39) and RB8/TF2 (2x336).
   - for sub-test 8, 11 and 14: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
   - for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
   - for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.39.3 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB / (CC, 10 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.39 for the uplink convolutional channel coding and 10 ms TTI case.

See test case 14.2.39.1 for test procedure and test requirement.

14.2.39.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:32 DL:64 kbps / PS RAB / (CC, 20 ms TTI)

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.39 for the uplink convolutional channel coding and 20 ms TTI case.

See test case 14.2.39.2 for test procedure and test requirement.

14.2.40 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB+ UL:3.4 DL: 3.4 kbps SRBs for DCCH

14.2.40.1 Conformance requirement

See 14.2.4.1.

14.2.40.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.40.

14.2.40.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC15, DL_TFC16, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC15, DL_TFC17, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC18, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC19, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC20, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC15, DL_TFC21, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC15, DL_TFC22, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC15, DL_TFC23, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC15, DL_TFC24, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1008	RB5: No data RB6: No data RB7: No data RB8: 1008
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC15, DL_TFC25, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1008	RB5: 39 RB6: No data RB7: No data RB8: 1008
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC15, DL_TFC26, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1008	RB5: 81 RB6: 103 RB7: 60 RB8: 1008
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC15, DL_TFC27, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: No data RB6: No data RB7: No data RB8: 1344
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC15, DL_TFC28, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: 39 RB6: No data RB7: No data RB8: 1344
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC15, DL_TFC29, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1344	RB5: 81 RB6: 103 RB7: 60 RB8: 1344

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.40.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3: RB8/TF1 (1x336)
   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
   - for sub-test 6: RB8/TF2 (2x336)
   - for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).
   - for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
   - for sub-test 9: RB8/TF3 (3x336)
   - for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).
   - for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).
   - for sub-test 12: RB8/TF4 (4x336)
   - for sub-test 13: RB5/TF1 (1x39) and RB8/TF4 (4x336).
   - for sub-test 14: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
   - for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
   - for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.41 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.41.1 Conformance requirement

See 14.2.4.1.

14.2.41.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.41.

14.2.41.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (128 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC15, DL_TFC16, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC15, DL_TFC17, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC18, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC19, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC20, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC15, DL_TFC21, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC15, DL_TFC22, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC15, DL_TFC23, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC15, DL_TFC24, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: No data RB6: No data RB7: No data RB8: 1344
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC15, DL_TFC25, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: 39 RB6: No data RB7: No data RB8: 1344
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC15, DL_TFC26, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1344	RB5: 81 RB6: 103 RB7: 60 RB8: 1344
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC15, DL_TFC27, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: No data RB6: No data RB7: No data RB8: 2688
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC15, DL_TFC28, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: 39 RB6: No data RB7: No data RB8: 2688
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC15, DL_TFC29, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2688	RB5: 81 RB6: 103 RB7: 60 RB8: 2688

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.41.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3: RB8/TF1 (1x336)
   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
   - for sub-test 6: RB8/TF2 (2x336)
   - for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).
   - for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
   - for sub-test 9: RB8/TF3 (3x336)
   - for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).
   - for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).
   - for sub-test 12: RB8/TF4 (4x336)
   - for sub-test 13: RB5/TF1 (1x39) and RB8/TF4 (4x336).
   - for sub-test 14: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
   - for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
   - for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

~~14.2.42Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH~~

14.2.42 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.42.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB / 10 ms TTI

14.2.42.1.1 Conformance requirement

See 14.2.4.1.

14.2.42.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.42 for the downlink 10 ms TTI case.

14.2.42.1.3 Method of test

Uplink TFS:

	TFI	**RB5 (RAB subflow #1)**	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (256 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC15, DL_TFC16, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC15, DL_TFC17, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC18, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC19, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC20, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC15, DL_TFC21, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC15, DL_TFC22, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC15, DL_TFC23, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC15, DL_TFC24, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: No data RB6: No data RB7: No data RB8: 1344
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC15, DL_TFC25, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: 39 RB6: No data RB7: No data RB8: 1344
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC15, DL_TFC26, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1344	RB5: 81 RB6: 103 RB7: 60 RB8: 1344
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC15, DL_TFC27, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: No data RB6: No data RB7: No data RB8: 2688
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC15, DL_TFC28, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: 39 RB6: No data RB7: No data RB8: 2688
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC15, DL_TFC29, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2688	RB5: 81 RB6: 103 RB7: 60 RB8: 2688

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.42.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3: RB8/TF1 (1x336)
   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
   - for sub-test 6: RB8/TF2 (2x336)
   - for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).
   - for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
   - for sub-test 9: RB8/TF3 (3x336)
   - for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).
   - for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).
   - for sub-test 12: RB8/TF4 (4x336)
   - for sub-test 13: RB5/TF1 (1x39) and RB8/TF4 (4x336).
   - for sub-test 14: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
   - for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
   - for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.42.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB / 20 ms TTI

14.2.42.2.1 Conformance requirement

See 14.2.4.1.

14.2.42.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.42 for the downlink 20 ms TTI case.

14.2.42.2.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (256 kbps, 20 ms)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A
	TF5, bits	N/A	N/A	N/A	12x336	N/A
	TF6, bits	N/A	N/A	N/A	16x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF0, TF1)
DL_TFC22	(TF1, TF0, TF0, TF0, TF1)
DL_TFC23	(TF2, TF1, TF1, TF0, TF1)
DL_TFC24	(TF0, TF0, TF0, TF1, TF1)
DL_TFC25	(TF1, TF0, TF0, TF1, TF1)
DL_TFC26	(TF2, TF1, TF1, TF1, TF1)
DL_TFC27	(TF0, TF0, TF0, TF2, TF1)
DL_TFC28	(TF1, TF0, TF0, TF2, TF1)
DL_TFC29	(TF2, TF1, TF1, TF2, TF1)
DL_TFC30	(TF0, TF0, TF0, TF3, TF1)
DL_TFC31	(TF1, TF0, TF0, TF3, TF1)
DL_TFC32	(TF2, TF1, TF1, TF3, TF1)
DL_TFC33	(TF0, TF0, TF0, TF4, TF1)
DL_TFC34	(TF1, TF0, TF0, TF4, TF1)
DL_TFC35	(TF2, TF1, TF1, TF4, TF1)
DL_TFC36	(TF0, TF0, TF0, TF5, TF1)
DL_TFC37	(TF1, TF0, TF0, TF5, TF1)
DL_TFC38	(TF2, TF1, TF1, TF5, TF1)
DL_TFC39	(TF0, TF0, TF0, TF6, TF1)
DL_TFC40	(TF1, TF0, TF0, TF6, TF1)
DL_TFC41	(TF2, TF1, TF1, TF6, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC21, DL_TFC22, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC21, DL_TFC23, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC21, DL_TFC24, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC21, DL_TFC25, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC21, DL_TFC26, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC21, DL_TFC27, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC21, DL_TFC28, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC21, DL_TFC29, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC21, DL_TFC30, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: No data RB6: No data RB7: No data RB8: 1344
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC21, DL_TFC31, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: 39 RB6: No data RB7: No data RB8: 1344
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC21, DL_TFC32, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1344	RB5: 81 RB6: 103 RB7: 60 RB8: 1344
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC21, DL_TFC33, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: No data RB6: No data RB7: No data RB8: 2688
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC21, DL_TFC34, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: 39 RB6: No data RB7: No data RB8: 2688
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC21, DL_TFC35, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2688	RB5: 81 RB6: 103 RB7: 60 RB8: 2688
15	DL_TFC15	UL_TFC12	DL_TFC0, DL_TFC21, DL_TFC36, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 4032	RB5: No data RB6: No data RB7: No data RB8: 4032

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
16	DL_TFC16	UL_TFC13	DL_TFC0, DL_TFC21, DL_TFC37, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 4032	RB5: 39 RB6: No data RB7: No data RB8: 4032
17	DL_TFC17	UL_TFC14	DL_TFC0, DL_TFC21, DL_TFC38, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 4032	RB5: 81 RB6: 103 RB7: 60 RB8: 4032
18	DL_TFC18	UL_TFC12	DL_TFC0, DL_TFC21, DL_TFC39, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 5376	RB5: No data RB6: No data RB7: No data RB8: 5376
19	DL_TFC19	UL_TFC13	DL_TFC0, DL_TFC21, DL_TFC40, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 5376	RB5: 39 RB6: No data RB7: No data RB8: 5376
20	DL_TFC20	UL_TFC14	DL_TFC0, DL_TFC21, DL_TFC41, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 5376	RB5: 81 RB6: 103 RB7: 60 RB8: 5376

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.42.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3: RB8/TF1 (1x336)
   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
   - for sub-test 6: RB8/TF2 (2x336)
   - for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).
   - for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
   - for sub-test 9: RB8/TF3 (3x336)
   - for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).
   - for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).
   - for sub-test 12, 15 and 18: RB8/TF4 (4x336)
   - for sub-test 13, 16 and 19: RB5/TF1 (1x39) and RB8/TF4 (4x336).

- for sub-test 14, 17 and 20: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).

3. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
- for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
- for sub-test 3, 6, 9, 12, 15 and 18: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 4, 7, 10, 13, 16 and 19: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
- for sub-test 5, 8, 11, 14, 17 and 20: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.43 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.43.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 10 ms TTI

14.2.43.1.1 Conformance requirement

See 14.2.4.1.

14.2.43.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.43 for the downlink 10 ms TTI case.

14.2.43.1.3 Method of test

Uplink TFS:

	TFI	**RB5 (RAB subflow #1)**	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (384 kbps, 10 ms)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A
	TF5, bits	N/A	N/A	N/A	12x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF0, TF1)
DL_TFC19	(TF1, TF0, TF0, TF0, TF1)
DL_TFC20	(TF2, TF1, TF1, TF0, TF1)
DL_TFC21	(TF0, TF0, TF0, TF1, TF1)
DL_TFC22	(TF1, TF0, TF0, TF1, TF1)
DL_TFC23	(TF2, TF1, TF1, TF1, TF1)
DL_TFC24	(TF0, TF0, TF0, TF2, TF1)
DL_TFC25	(TF1, TF0, TF0, TF2, TF1)
DL_TFC26	(TF2, TF1, TF1, TF2, TF1)
DL_TFC27	(TF0, TF0, TF0, TF3, TF1)
DL_TFC28	(TF1, TF0, TF0, TF3, TF1)
DL_TFC29	(TF2, TF1, TF1, TF3, TF1)
DL_TFC30	(TF0, TF0, TF0, TF4, TF1)
DL_TFC31	(TF1, TF0, TF0, TF4, TF1)
DL_TFC32	(TF2, TF1, TF1, TF4, TF1)
DL_TFC33	(TF0, TF0, TF0, TF5, TF1)
DL_TFC34	(TF1, TF0, TF0, TF5, TF1)
DL_TFC35	(TF2, TF1, TF1, TF5, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC18, DL_TFC19, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC18, DL_TFC20, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC18, DL_TFC21, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC18, DL_TFC22, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC18, DL_TFC23, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC18, DL_TFC24, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC18, DL_TFC25, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC18, DL_TFC26, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC18, DL_TFC27, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: No data RB6: No data RB7: No data RB8: 1344
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC18, DL_TFC28, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: 39 RB6: No data RB7: No data RB8: 1344
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC18, DL_TFC29, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1344	RB5: 81 RB6: 103 RB7: 60 RB8: 1344
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC18, DL_TFC30, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: No data RB6: No data RB7: No data RB8: 2688
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC18, DL_TFC31, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: 39 RB6: No data RB7: No data RB8: 2688
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC18, DL_TFC32, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2688	RB5: 81 RB6: 103 RB7: 60 RB8: 2688
15	DL_TFC15	UL_TFC12	DL_TFC0, DL_TFC18, DL_TFC33, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 4032	RB5: No data RB6: No data RB7: No data RB8: 4032

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
16	DL_TFC16	UL_TFC13	DL_TFC0, DL_TFC18, DL_TFC34, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 4032	RB5: 39 RB6: No data RB7: No data RB8: 4032
17	DL_TFC17	UL_TFC14	DL_TFC0, DL_TFC18, DL_TFC35, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 4032	RB5: 81 RB6: 103 RB7: 60 RB8: 4032

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.43.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3: RB8/TF1 (1x336)
   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
   - for sub-test 6: RB8/TF2 (2x336)
   - for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).
   - for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
   - for sub-test 9: RB8/TF3 (3x336)
   - for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).
   - for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).
   - for sub-test 12 and 15: RB8/TF4 (4x336)
   - for sub-test 13 and 16: RB5/TF1 (1x39) and RB8/TF4 (4x336).
   - for sub-test 14 and 17: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

- for sub-test 3, 6, 9, 12 and 15: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 4, 7, 10, 13 and 16: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 5, 8, 11, 14, and 17: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.43.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB ~~+ UL:3.4 DL:3.4 kbps SRBs for DCCH~~ / 20 ms TTI

14.2.43.2.1 Conformance requirement

See 14.2.4.1.

14.2.43.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.43 for the downlink 20 ms TTI case.

14.2.43.2.3 Method of test

Uplink TFS:

	TFI	**RB5 (RAB subflow #1)**	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (64 kbps)**	**DCCH**
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (384 kbps, 10 ms)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A
	TF5, bits	N/A	N/A	N/A	12x336	N/A
	TF6, bits	N/A	N/A	N/A	16x336	N/A
	TF7, bits	N/A	N/A	N/A	20x336	N/A
	TF8, bits	N/A	N/A	N/A	24x336	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF7, TF0)
DL_TFC22	(TF1, TF0, TF0, TF7, TF0)
DL_TFC23	(TF2, TF1, TF1, TF7, TF0)
DL_TFC24	(TF0, TF0, TF0, TF8, TF0)
DL_TFC25	(TF1, TF0, TF0, TF8, TF0)
DL_TFC26	(TF2, TF1, TF1, TF8, TF0)
DL_TFC27	(TF0, TF0, TF0, TF0, TF1)
DL_TFC28	(TF1, TF0, TF0, TF0, TF1)
DL_TFC29	(TF2, TF1, TF1, TF0, TF1)
DL_TFC30	(TF0, TF0, TF0, TF1, TF1)
DL_TFC31	(TF1, TF0, TF0, TF1, TF1)
DL_TFC32	(TF2, TF1, TF1, TF1, TF1)
DL_TFC33	(TF0, TF0, TF0, TF2, TF1)
DL_TFC34	(TF1, TF0, TF0, TF2, TF1)
DL_TFC35	(TF2, TF1, TF1, TF2, TF1)
DL_TFC36	(TF0, TF0, TF0, TF3, TF1)
DL_TFC37	(TF1, TF0, TF0, TF3, TF1)
DL_TFC38	(TF2, TF1, TF1, TF3, TF1)
DL_TFC39	(TF0, TF0, TF0, TF4, TF1)
DL_TFC40	(TF1, TF0, TF0, TF4, TF1)
DL_TFC41	(TF2, TF1, TF1, TF4, TF1)
DL_TFC42	(TF0, TF0, TF0, TF5, TF1)
DL_TFC43	(TF1, TF0, TF0, TF5, TF1)
DL_TFC44	(TF2, TF1, TF1, TF5, TF1)
DL_TFC45	(TF0, TF0, TF0, TF6, TF1)
DL_TFC46	(TF1, TF0, TF0, TF6, TF1)
DL_TFC47	(TF2, TF1, TF1, TF6, TF1)
DL_TFC48	(TF0, TF0, TF0, TF7, TF1)
DL_TFC49	(TF1, TF0, TF0, TF7, TF1)
DL_TFC50	(TF2, TF1, TF1, TF7, TF1)
DL_TFC51	(TF0, TF0, TF0, TF8, TF1)
DL_TFC52	(TF1, TF0, TF0, TF8, TF1)
DL_TFC53	(TF2, TF1, TF1, TF8, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC27, DL_TFC28, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC27, DL_TFC29, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC27, DL_TFC30, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC27, DL_TFC31, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 336	RB5: 39 RB6: No data RB7: No data RB8: 336
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC27, DL_TFC32, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 336	RB5: 81 RB6: 103 RB7: 60 RB8: 336
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC27, DL_TFC33, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: No data RB6: No data RB7: No data RB8: 672
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC27, DL_TFC34, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 672	RB5: 39 RB6: No data RB7: No data RB8: 672
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC27, DL_TFC35, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 672	RB5: 81 RB6: 103 RB7: 60 RB8: 672
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC27, DL_TFC36, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: No data RB6: No data RB7: No data RB8: 1344
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC27, DL_TFC37, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1344	RB5: 39 RB6: No data RB7: No data RB8: 1344
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC27, DL_TFC38, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1344	RB5: 81 RB6: 103 RB7: 60 RB8: 1344
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC27, DL_TFC39, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: No data RB6: No data RB7: No data RB8: 2688
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC27, DL_TFC40, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2688	RB5: 39 RB6: No data RB7: No data RB8: 2688
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC27, DL_TFC41, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2688	RB5: 81 RB6: 103 RB7: 60 RB8: 2688
15	DL_TFC15	UL_TFC12	DL_TFC0, DL_TFC27, DL_TFC42, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 4032	RB5: No data RB6: No data RB7: No data RB8: 4032

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
16	DL_TFC16	UL_TFC13	DL_TFC0, DL_TFC27, DL_TFC43, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 4032	RB5: 39 RB6: No data RB7: No data RB8: 4032
17	DL_TFC17	UL_TFC14	DL_TFC0, DL_TFC27, DL_TFC44, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 4032	RB5: 81 RB6: 103 RB7: 60 RB8: 4032
18	DL_TFC18	UL_TFC12	DL_TFC0, DL_TFC27, DL_TFC45, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 5376	RB5: No data RB6: No data RB7: No data RB8: 5376
19	DL_TFC19	UL_TFC13	DL_TFC0, DL_TFC27, DL_TFC46, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 5376	RB5: 39 RB6: No data RB7: No data RB8: 5376
20	DL_TFC20	UL_TFC14	DL_TFC0, DL_TFC27, DL_TFC47, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 5376	RB5: 81 RB6: 103 RB7: 60 RB8: 5376
21	DL_TFC21	UL_TFC12	DL_TFC0, DL_TFC27, DL_TFC48, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 6720	RB5: No data RB6: No data RB7: No data RB8: 6720
22	DL_TFC22	UL_TFC13	DL_TFC0, DL_TFC27, DL_TFC49, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 6720	RB5: 39 RB6: No data RB7: No data RB8: 6720
23	DL_TFC23	UL_TFC14	DL_TFC0, DL_TFC27, DL_TFC50, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 6720	RB5: 81 RB6: 103 RB7: 60 RB8: 6720
24	DL_TFC24	UL_TFC12	DL_TFC0, DL_TFC27, DL_TFC51, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 8064	RB5: No data RB6: No data RB7: No data RB8: 8064
25	DL_TFC25	UL_TFC13	DL_TFC0, DL_TFC27, DL_TFC52, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 8064	RB5: 39 RB6: No data RB7: No data RB8: 8064
26	DL_TFC26	UL_TFC14	DL_TFC0, DL_TFC27, DL_TFC53, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 8064	RB5: 81 RB6: 103 RB7: 60 RB8: 8064

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.43.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).

- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
- for sub-test 3: RB8/TF1 (1x336)
- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
- for sub-test 6: RB8/TF2 (2x336)
- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).
- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
- for sub-test 9: RB8/TF3 (3x336)
- for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x336).
- for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x336).
- for sub-test 12, 15, 18, 21 and 24: RB8/TF4 (4x336)
- for sub-test 13, 16, 19, 22 and 25: RB5/TF1 (1x39) and RB8/TF4 (4x336).
- for sub-test 14, 17, 20, 23 and 26: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x336).

3. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
- for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
- for sub-test 3, 6, 9, 12, 15, 18, 21 and 24: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 4, 7, 10, 13, 16, 19, 22 and 25: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
- for sub-test 5, 8, 11, 14, 17, 20, 23 and 26: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.44 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.44.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB / 10 ms TTI

14.2.44.1.1 Conformance requirement

See 14.2.4.1.

14.2.44.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.44 for the downlink 10 ms TTI case.

14.2.44.1.3 Method of test

14.2.44.2.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (128 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (2048 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x656	0x148
	TF1, bits	1x39	1x103	1x60	1x656	1x148
	TF2, bits	1x81	N/A	N/A	2x656	N/A
	TF3, bits	N/A	N/A	N/A	4x656	N/A
	TF4, bits	N/A	N/A	N/A	8x656	N/A
	TF5, bits	N/A	N/A	N/A	12x656	N/A
	TF6, bits	N/A	N/A	N/A	16x656	N/A
	TF7, bits	N/A	N/A	N/A	20x656	N/A
	TF8, bits	N/A	N/A	N/A	24x656	N/A
	TF9, bits	N/A	N/A	N/A	28x656	N/A
	TF10, bits	N/A	N/A	N/A	32x656	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF7, TF0)
DL_TFC22	(TF1, TF0, TF0, TF7, TF0)
DL_TFC23	(TF2, TF1, TF1, TF7, TF0)
DL_TFC24	(TF0, TF0, TF0, TF8, TF0)
DL_TFC25	(TF1, TF0, TF0, TF8, TF0)
DL_TFC26	(TF2, TF1, TF1, TF8, TF0)
DL_TFC27	(TF0, TF0, TF0, TF9, TF0)
DL_TFC28	(TF1, TF0, TF0, TF9, TF0)
DL_TFC29	(TF2, TF1, TF1, TF9, TF0)
DL_TFC30	(TF0, TF0, TF0, TF10, TF0)
DL_TFC31	(TF1, TF0, TF0, TF10, TF0)
DL_TFC32	(TF2, TF1, TF1, TF10, TF0)
DL_TFC33	(TF0, TF0, TF0, TF0, TF1)
DL_TFC34	(TF1, TF0, TF0, TF0, TF1)
DL_TFC35	(TF2, TF1, TF1, TF0, TF1)
DL_TFC36	(TF0, TF0, TF0, TF1, TF1)
DL_TFC37	(TF1, TF0, TF0, TF1, TF1)
DL_TFC38	(TF2, TF1, TF1, TF1, TF1)
DL_TFC39	(TF0, TF0, TF0, TF2, TF1)
DL_TFC40	(TF1, TF0, TF0, TF2, TF1)
DL_TFC41	(TF2, TF1, TF1, TF2, TF1)
DL_TFC42	(TF0, TF0, TF0, TF3, TF1)
DL_TFC43	(TF1, TF0, TF0, TF3, TF1)
DL_TFC44	(TF2, TF1, TF1, TF3, TF1)
DL_TFC45	(TF0, TF0, TF0, TF4, TF1)
DL_TFC46	(TF1, TF0, TF0, TF4, TF1)
DL_TFC47	(TF2, TF1, TF1, TF4, TF1)
DL_TFC48	(TF0, TF0, TF0, TF5, TF1)
DL_TFC49	(TF1, TF0, TF0, TF5, TF1)
DL_TFC50	(TF2, TF1, TF1, TF5, TF1)
DL_TFC51	(TF0, TF0, TF0, TF6, TF1)
DL_TFC52	(TF1, TF0, TF0, TF6, TF1)
DL_TFC53	(TF2, TF1, TF1, TF6, TF1)
DL_TFC54	(TF0, TF0, TF0, TF7, TF1)
DL_TFC55	(TF1, TF0, TF0, TF7, TF1)
DL_TFC56	(TF2, TF1, TF1, TF7, TF1)
DL_TFC57	(TF0, TF0, TF0, TF8, TF1)
DL_TFC58	(TF1, TF0, TF0, TF8, TF1)
DL_TFC59	(TF2, TF1, TF1, TF8, TF1)
DL_TFC60	(TF0, TF0, TF0, TF9, TF1)
DL_TFC61	(TF1, TF0, TF0, TF9, TF1)

DL_TFC62	(TF2, TF1, TF1, TF9, TF1)
DL_TFC63	(TF0, TF0, TF0, TF10, TF1)
DL_TFC64	(TF1, TF0, TF0, TF10, TF1)
DL_TFC65	(TF2, TF1, TF1, TF10, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC33, DL_TFC34, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 656	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC33, DL_TFC35, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 656	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC33, DL_TFC36, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 656	RB5: No data RB6: No data RB7: No data RB8: 656
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC33, DL_TFC37, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 656	RB5: 39 RB6: No data RB7: No data RB8: 656
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC33, DL_TFC38, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 656	RB5: 81 RB6: 103 RB7: 60 RB8: 656
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC33, DL_TFC39, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 1312	RB5: No data RB6: No data RB7: No data RB8: 1312
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC33, DL_TFC40, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 1312	RB5: 39 RB6: No data RB7: No data RB8: 1312
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC33, DL_TFC41, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 1312	RB5: 81 RB6: 103 RB7: 60 RB8: 1312
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC33, DL_TFC42, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 2624	RB5: No data RB6: No data RB7: No data RB8: 2624
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC33, DL_TFC43, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 2624	RB5: 39 RB6: No data RB7: No data RB8: 2624
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC33, DL_TFC44, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 2624	RB5: 81 RB6: 103 RB7: 60 RB8: 2624
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC33, DL_TFC45, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 5248	RB5: No data RB6: No data RB7: No data RB8: 5248
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC33, DL_TFC46, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 5248	RB5: 39 RB6: No data RB7: No data RB8: 5248
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC33, DL_TFC47, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 5248	RB5: 81 RB6: 103 RB7: 60 RB8: 5248
15	DL_TFC15	UL_TFC12	DL_TFC0, DL_TFC33, DL_TFC48, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 7872	RB5: No data RB6: No data RB7: No data RB8: 7872

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
16	DL_TFC16	UL_TFC13	DL_TFC0, DL_TFC33, DL_TFC49, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 7872	RB5: 39 RB6: No data RB7: No data RB8: 7872
17	DL_TFC17	UL_TFC14	DL_TFC0, DL_TFC33, DL_TFC50, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 7872	RB5: 81 RB6: 103 RB7: 60 RB8: 7872
18	DL_TFC18	UL_TFC12	DL_TFC0, DL_TFC33, DL_TFC51, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 10496	RB5: No data RB6: No data RB7: No data RB8: 10496
19	DL_TFC19	UL_TFC13	DL_TFC0, DL_TFC33, DL_TFC52, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 10496	RB5: 39 RB6: No data RB7: No data RB8: 10496
20	DL_TFC20	UL_TFC14	DL_TFC0, DL_TFC33, DL_TFC53, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 10496	RB5: 81 RB6: 103 RB7: 60 RB8: 10496
21	DL_TFC21	UL_TFC12	DL_TFC0, DL_TFC33, DL_TFC54, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 13120	RB5: No data RB6: No data RB7: No data RB8: 13120
22	DL_TFC22	UL_TFC13	DL_TFC0, DL_TFC33, DL_TFC55, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 13120	RB5: 39 RB6: No data RB7: No data RB8: 13120
23	DL_TFC23	UL_TFC14	DL_TFC0, DL_TFC33, DL_TFC56, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 13120	RB5: 81 RB6: 103 RB7: 60 RB8: 13120
24	DL_TFC24	UL_TFC12	DL_TFC0, DL_TFC33, DL_TFC57, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 15744	RB5: No data RB6: No data RB7: No data RB8: 15744
25	DL_TFC25	UL_TFC13	DL_TFC0, DL_TFC33, DL_TFC58, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 15744	RB5: 39 RB6: No data RB7: No data RB8: 15744
26	DL_TFC26	UL_TFC14	DL_TFC0, DL_TFC33, DL_TFC59, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 15744	RB5: 81 RB6: 103 RB7: 60 RB8: 15744
27	DL_TFC27	UL_TFC12	DL_TFC0, DL_TFC33, DL_TFC60, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 18368	RB5: No data RB6: No data RB7: No data RB8: 18368
28	DL_TFC28	UL_TFC13	DL_TFC0, DL_TFC33, DL_TFC61, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 18368	RB5: 39 RB6: No data RB7: No data RB8: 18368
29	DL_TFC29	UL_TFC14	DL_TFC0, DL_TFC33, DL_TFC62, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 18368	RB5: 81 RB6: 103 RB7: 60 RB8: 18368
30	DL_TFC30	UL_TFC12	DL_TFC0, DL_TFC33, DL_TFC63, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 20992	RB5: No data RB6: No data RB7: No data RB8: 20992

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
31	DL_TFC31	UL_TFC13	DL_TFC0, DL_TFC33, DL_TFC64, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 20992	RB5: 39 RB6: No data RB7: No data RB8: 20992
32	DL_TFC32	UL_TFC14	DL_TFC0, DL_TFC33, DL_TFC65, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 20992	RB5: 81 RB6: 103 RB7: 60 RB8: 20992

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.44.1.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3: RB8/TF1 (1x336)
   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
   - for sub-test 6: RB8/TF2 (2x336)
   - for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).
   - for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
   - for sub-test 9: RB8/TF3 (4x336)
   - for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (4x336).
   - for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (4x336).
   - for sub-test 12,15,18,21,24,27,30: RB8/TF4 (8x336)
   - for sub-test 13,16,19,22,25,28,31: RB5/TF1 (1x39) and RB8/TF4 (8x336).
   - for sub-test 14,17,20,23,26,29,32: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (8x336).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.

- for sub-test 3, 6, 9, 12, 15, 18, 21, 24, 27, 30: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.

- for sub-test 4, 7, 10, 13, 16, 19, 22, 25, 28, 31: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.

- for sub-test 5, 8, 11, 14, 17, 20, 23, 26, 29, 32: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.44.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:128 DL:2048 kbps / PS RAB / 20 ms TTI

14.2.44.2.1 Conformance requirement

See 14.2.4.1.

14.2.44.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.44 for the downlink 20 ms TTI case.

14.2.44.2.3 Method of test

Uplink TFS:

	TFI	**RB5 (RAB subflow #1)**	**RB6 (RAB subflow #2)**	**RB7 (RAB subflow #3)**	**RB8 (128 kbps)**	**DCCH**
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (2048 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x656	0x148
	TF1, bits	1x39	1x103	1x60	1x656	1x148
	TF2, bits	1x81	N/A	N/A	2x656	N/A
	TF3, bits	N/A	N/A	N/A	4x656	N/A
	TF4, bits	N/A	N/A	N/A	8x656	N/A
	TF5, bits	N/A	N/A	N/A	12x656	N/A
	TF6, bits	N/A	N/A	N/A	16x656	N/A
	TF7, bits	N/A	N/A	N/A	20x656	N/A
	TF8, bits	N/A	N/A	N/A	24x656	N/A
	TF9, bits	N/A	N/A	N/A	28x656	N/A
	TF10, bits	N/A	N/A	N/A	32x656	N/A
	TF11, bits	N/A	N/A	N/A	36x656	N/A
	TF12, bits	N/A	N/A	N/A	40x656	N/A
	TF13, bits	N/A	N/A	N/A	44x656	N/A
	TF14, bits	N/A	N/A	N/A	48x656	N/A
	TF15, bits	N/A	N/A	N/A	52x656	N/A
	TF16, bits	N/A	N/A	N/A	56x656	N/A
	TF17, bits	N/A	N/A	N/A	60x656	N/A
	TF18, bits	N/A	N/A	N/A	64x656	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF5, TF0)
DL_TFC16	(TF1, TF0, TF0, TF5, TF0)
DL_TFC17	(TF2, TF1, TF1, TF5, TF0)
DL_TFC18	(TF0, TF0, TF0, TF6, TF0)
DL_TFC19	(TF1, TF0, TF0, TF6, TF0)
DL_TFC20	(TF2, TF1, TF1, TF6, TF0)
DL_TFC21	(TF0, TF0, TF0, TF7, TF0)
DL_TFC22	(TF1, TF0, TF0, TF7, TF0)
DL_TFC23	(TF2, TF1, TF1, TF7, TF0)
DL_TFC24	(TF0, TF0, TF0, TF8, TF0)
DL_TFC25	(TF1, TF0, TF0, TF8, TF0)
DL_TFC26	(TF2, TF1, TF1, TF8, TF0)
DL_TFC27	(TF0, TF0, TF0, TF9, TF0)
DL_TFC28	(TF1, TF0, TF0, TF9, TF0)
DL_TFC29	(TF2, TF1, TF1, TF9, TF0)
DL_TFC30	(TF0, TF0, TF0, TF10, TF0)
DL_TFC31	(TF1, TF0, TF0, TF10, TF0)
DL_TFC32	(TF2, TF1, TF1, TF10, TF0)
DL_TFC33	(TF0, TF0, TF0, TF11, TF0)
DL_TFC34	(TF1, TF0, TF0, TF11, TF0)
DL_TFC35	(TF2, TF1, TF1, TF11, TF0)
DL_TFC36	(TF0, TF0, TF0, TF12, TF0)
DL_TFC37	(TF1, TF0, TF0, TF12, TF0)
DL_TFC38	(TF2, TF1, TF1, TF12, TF0)
DL_TFC39	(TF0, TF0, TF0, TF13, TF0)
DL_TFC40	(TF1, TF0, TF0, TF13, TF0)
DL_TFC41	(TF2, TF1, TF1, TF13, TF0)
DL_TFC42	(TF0, TF0, TF0, TF14, TF0)
DL_TFC43	(TF1, TF0, TF0, TF14, TF0)
DL_TFC44	(TF2, TF1, TF1, TF14, TF0)
DL_TFC45	(TF0, TF0, TF0, TF15, TF0)
DL_TFC46	(TF1, TF0, TF0, TF15, TF0)
DL_TFC47	(TF2, TF1, TF1, TF15, TF0)
DL_TFC48	(TF0, TF0, TF0, TF16, TF0)
DL_TFC49	(TF1, TF0, TF0, TF16, TF0)
DL_TFC50	(TF2, TF1, TF1, TF16, TF0)
DL_TFC51	(TF0, TF0, TF0, TF17, TF0)
DL_TFC52	(TF1, TF0, TF0, TF17, TF0)
DL_TFC53	(TF2, TF1, TF1, TF17, TF0)
DL_TFC54	(TF0, TF0, TF0, TF18, TF0)
DL_TFC55	(TF1, TF0, TF0, TF18, TF0)
DL_TFC56	(TF2, TF1, TF1, TF18, TF0)
DL_TFC57	(TF0, TF0, TF0, TF0, TF1)
DL_TFC58	(TF1, TF0, TF0, TF0, TF1)
DL_TFC59	(TF2, TF1, TF1, TF0, TF1)
DL_TFC60	(TF0, TF0, TF0, TF1, TF1)
DL_TFC61	(TF1, TF0, TF0, TF1, TF1)

DL_TFC61	(TF2, TF1, TF1, TF1, TF1)
DL_TFC63	(TF0, TF0, TF0, TF2, TF1)
DL_TFC64	(TF1, TF0, TF0, TF2, TF1)
DL_TFC65	(TF2, TF1, TF1, TF2, TF1)
DL_TFC66	(TF0, TF0, TF0, TF3, TF1)
DL_TFC67	(TF1, TF0, TF0, TF3, TF1)
DL_TFC68	(TF2, TF1, TF1, TF3, TF1)
DL_TFC69	(TF0, TF0, TF0, TF4, TF1)
DL_TFC70	(TF1, TF0, TF0, TF4, TF1)
DL_TFC71	(TF2, TF1, TF1, TF4, TF1)
DL_TFC72	(TF0, TF0, TF0, TF5, TF1)
DL_TFC73	(TF1, TF0, TF0, TF5, TF1)
DL_TFC74	(TF2, TF1, TF1, TF5, TF1)
DL_TFC75	(TF0, TF0, TF0, TF6, TF1)
DL_TFC76	(TF1, TF0, TF0, TF6, TF1)
DL_TFC77	(TF2, TF1, TF1, TF6, TF1)
DL_TFC78	(TF0, TF0, TF0, TF7, TF1)
DL_TFC79	(TF1, TF0, TF0, TF7, TF1)
DL_TFC80	(TF2, TF1, TF1, TF7, TF1)
DL_TFC81	(TF0, TF0, TF0, TF8, TF1)
DL_TFC82	(TF1, TF0, TF0, TF8, TF1)
DL_TFC83	(TF2, TF1, TF1, TF8, TF1)
DL_TFC84	(TF0, TF0, TF0, TF9, TF1)
DL_TFC85	(TF1, TF0, TF0, TF9, TF1)
DL_TFC86	(TF2, TF1, TF1, TF9, TF1)
DL_TFC87	(TF0, TF0, TF0, TF10, TF1)
DL_TFC88	(TF1, TF0, TF0, TF10, TF1)
DL_TFC89	(TF2, TF1, TF1, TF10, TF1)
DL_TFC90	(TF0, TF0, TF0, TF11, TF1)
DL_TFC91	(TF1, TF0, TF0, TF11, TF1)
DL_TFC92	(TF2, TF1, TF1, TF11, TF1)
DL_TFC93	(TF0, TF0, TF0, TF12, TF1)
DL_TFC94	(TF1, TF0, TF0, TF12, TF1)
DL_TFC95	(TF2, TF1, TF1, TF12, TF1)
DL_TFC96	(TF0, TF0, TF0, TF13, TF1)
DL_TFC97	(TF1, TF0, TF0, TF13, TF1)
DL_TFC98	(TF2, TF1, TF1, TF13, TF1)
DL_TFC99	(TF0, TF0, TF0, TF14, TF1)
DL_TFC100	(TF1, TF0, TF0, TF14, TF1)
DL_TFC101	(TF2, TF1, TF1, TF14, TF1)
DL_TFC102	(TF0, TF0, TF0, TF15, TF1)
DL_TFC103	(TF1, TF0, TF0, TF15, TF1)
DL_TFC104	(TF2, TF1, TF1, TF15, TF1)
DL_TFC105	(TF0, TF0, TF0, TF16, TF1)
DL_TFC106	(TF1, TF0, TF0, TF16, TF1)
DL_TFC107	(TF2, TF1, TF1, TF16, TF1)
DL_TFC108	(TF0, TF0, TF0, TF17, TF1)
DL_TFC109	(TF1, TF0, TF0, TF17, TF1)
DL_TFC110	(TF2, TF1, TF1, TF17, TF1)
DL_TFC111	(TF0, TF0, TF0, TF18, TF1)
DL_TFC112	(TF1, TF0, TF0, TF18, TF1)
DL_TFC113	(TF2, TF1, TF1, TF18, TF1)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC57, DL_TFC58, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 656	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC57, DL_TFC59, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 656	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC57, DL_TFC60, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 656	RB5: No data RB6: No data RB7: No data RB8: 656
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC57, DL_TFC61, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 656	RB5: 39 RB6: No data RB7: No data RB8: 656
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC57, DL_TFC62, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 656	RB5: 81 RB6: 103 RB7: 60 RB8: 656
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC57, DL_TFC63, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 1312	RB5: No data RB6: No data RB7: No data RB8: 1312
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC57, DL_TFC64, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 1312	RB5: 39 RB6: No data RB7: No data RB8: 1312
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC57, DL_TFC65, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 1312	RB5: 81 RB6: 103 RB7: 60 RB8: 1312
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC57, DL_TFC66, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 2624	RB5: No data RB6: No data RB7: No data RB8: 2624
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC57, DL_TFC67, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 2624	RB5: 39 RB6: No data RB7: No data RB8: 2624
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC57, DL_TFC68, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 2624	RB5: 81 RB6: 103 RB7: 60 RB8: 2624
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC69, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 5248	RB5: No data RB6: No data RB7: No data RB8: 5248
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC70, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 5248	RB5: 39 RB6: No data RB7: No data RB8: 5248
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC71, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 5248	RB5: 81 RB6: 103 RB7: 60 RB8: 5248
15	DL_TFC15	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC72, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 7872	RB5: No data RB6: No data RB7: No data RB8: 7872

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
16	DL_TFC16	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC73, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 7872	RB5: 39 RB6: No data RB7: No data RB8: 7872
17	DL_TFC17	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC74, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 7872	RB5: 81 RB6: 103 RB7: 60 RB8: 7872
18	DL_TFC18	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC75, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 10496	RB5: No data RB6: No data RB7: No data RB8: 10496
19	DL_TFC19	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC76, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 10496	RB5: 39 RB6: No data RB7: No data RB8: 10496
20	DL_TFC20	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC77, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 10496	RB5: 81 RB6: 103 RB7: 60 RB8: 10496
21	DL_TFC21	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC78, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 13120	RB5: No data RB6: No data RB7: No data RB8: 13120
22	DL_TFC22	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC79, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 13120	RB5: 39 RB6: No data RB7: No data RB8: 13120
23	DL_TFC23	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC80, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 13120	RB5: 81 RB6: 103 RB7: 60 RB8: 13120
24	DL_TFC24	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC81, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 15744	RB5: No data RB6: No data RB7: No data RB8: 15744
25	DL_TFC25	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC82, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 15744	RB5: 39 RB6: No data RB7: No data RB8: 15744
26	DL_TFC26	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC83, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 15744	RB5: 81 RB6: 103 RB7: 60 RB8: 15744
27	DL_TFC27	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC84, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 18368	RB5: No data RB6: No data RB7: No data RB8: 18368
28	DL_TFC28	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC85, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 18368	RB5: 39 RB6: No data RB7: No data RB8: 18368
29	DL_TFC29	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC86, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 18368	RB5: 81 RB6: 103 RB7: 60 RB8: 18368
30	DL_TFC30	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC87, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 20992	RB5: No data RB6: No data RB7: No data RB8: 20992

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
31	DL_TFC31	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC88, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 20992	RB5: 39 RB6: No data RB7: No data RB8: 20992
32	DL_TFC32	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC89, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 20992	RB5: 81 RB6: 103 RB7: 60 RB8: 20992
33	DL_TFC33	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC90, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 23616	RB5: No data RB6: No data RB7: No data RB8: 23616
34	DL_TFC34	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC91, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 23616	RB5: 39 RB6: No data RB7: No data RB8: 23616
35	DL_TFC35	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC92, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 23616	RB5: 81 RB6: 103 RB7: 60 RB8: 23616
36	DL_TFC36	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC93, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 26240	RB5: No data RB6: No data RB7: No data RB8: 26240
37	DL_TFC37	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC94, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 26240	RB5: 39 RB6: No data RB7: No data RB8: 26240
38	DL_TFC38	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC95, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 26240	RB5: 81 RB6: 103 RB7: 60 RB8: 26240
39	DL_TFC39	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC96, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 28864	RB5: No data RB6: No data RB7: No data RB8: 28864
40	DL_TFC40	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC97, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 28864	RB5: 39 RB6: No data RB7: No data RB8: 28864
41	DL_TFC41	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC98, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 28864	RB5: 81 RB6: 103 RB7: 60 RB8: 28864
42	DL_TFC42	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC99, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 31488	RB5: No data RB6: No data RB7: No data RB8: 31488
43	DL_TFC43	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC100, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 31488	RB5: 39 RB6: No data RB7: No data RB8: 31488
44	DL_TFC44	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC101, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 31488	RB5: 81 RB6: 103 RB7: 60 RB8: 31488
45	DL_TFC45	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC102, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 34112	RB5: No data RB6: No data RB7: No data RB8: 34112

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
46	DL_TFC46	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC103, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 34112	RB5: 39 RB6: No data RB7: No data RB8: 34112
47	DL_TFC47	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC104, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 34112	RB5: 81 RB6: 103 RB7: 60 RB8: 34112
48	DL_TFC48	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC105, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 36736	RB5: No data RB6: No data RB7: No data RB8: 36736
49	DL_TFC49	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC106, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 36736	RB5: 39 RB6: No data RB7: No data RB8: 36736
50	DL_TFC50	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC107, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 36736	RB5: 81 RB6: 103 RB7: 60 RB8: 36736
51	DL_TFC51	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC108, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 39360	RB5: No data RB6: No data RB7: No data RB8: 39360
52	DL_TFC52	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC109, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 39360	RB5: 39 RB6: No data RB7: No data RB8: 39360
53	DL_TFC53	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC110, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 39360	RB5: 81 RB6: 103 RB7: 60 RB8: 39360
54	DL_TFC54	UL_TFC12	DL_TFC0, DL_TFC57, DL_TFC111, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 41984	RB5: No data RB6: No data RB7: No data RB8: 41984
55	DL_TFC55	UL_TFC13	DL_TFC0, DL_TFC57, DL_TFC112, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 41984	RB5: 39 RB6: No data RB7: No data RB8: 41984
56	DL_TFC56	UL_TFC14	DL_TFC0, DL_TFC57, DL_TFC113, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 41984	RB5: 81 RB6: 103 RB7: 60 RB8: 41984

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.44.2.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).

- for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
- for sub-test 3: RB8/TF1 (1x336)
- for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x336).
- for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x336).
- for sub-test 6: RB8/TF2 (2x336)
- for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x336).
- for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x336).
- for sub-test 9: RB8/TF3 (4x336)
- for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (4x336).
- for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (4x336).
- for sub-test 12,15,18,21,24,27,30,33,36,39,42: RB8/TF4 (8x336)
- for sub-test 13,16,19,22,25,28,31,34,37,40,43: RB5/TF1 (1x39) and RB8/TF4 (8x336).
- for sub-test 14,17,20,23,26,29,32,35,38,41,44: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (8x336).

3. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
- for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
- for sub-test 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
- for sub-test 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
- for sub-test 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35, 38, 41, 44: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.45 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:57.6 DL:57.6 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

14.2.45.1 Conformance requirement

See 14.2.4.1.

14.2.45.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.45.

14.2.45.3 Method of test

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (57.6 kbps)	DCCH
TFS	TF0, bits	0x81(alt. 1x0)	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	2x576	N/A
	TF3, bits	N/A	N/A	N/A	3x576	N/A
	TF4, bits	N/A	N/A	N/A	4x576	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (57.6 kbps)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x576	0x148
	TF1, bits	1x39	1x103	1x60	1x576	1x148
	TF2, bits	1x81	N/A	N/A	2x576	N/A
	TF3, bits	N/A	N/A	N/A	3x576	N/A
	TF4, bits	N/A	N/A	N/A	4x576	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1, TF0)
DL_TFC4	(TF1, TF0, TF0, TF1, TF0)
DL_TFC5	(TF2, TF1, TF1, TF1, TF0)
DL_TFC6	(TF0, TF0, TF0, TF2, TF0)
DL_TFC7	(TF1, TF0, TF0, TF2, TF0)
DL_TFC8	(TF2, TF1, TF1, TF2, TF0)
DL_TFC9	(TF0, TF0, TF0, TF3, TF0)
DL_TFC10	(TF1, TF0, TF0, TF3, TF0)
DL_TFC11	(TF2, TF1, TF1, TF3, TF0)
DL_TFC12	(TF0, TF0, TF0, TF4, TF0)
DL_TFC13	(TF1, TF0, TF0, TF4, TF0)
DL_TFC14	(TF2, TF1, TF1, TF4, TF0)
DL_TFC15	(TF0, TF0, TF0, TF0, TF1)
DL_TFC16	(TF1, TF0, TF0, TF0, TF1)
DL_TFC17	(TF2, TF1, TF1, TF0, TF1)
DL_TFC18	(TF0, TF0, TF0, TF1, TF1)
DL_TFC19	(TF1, TF0, TF0, TF1, TF1)
DL_TFC20	(TF2, TF1, TF1, TF1, TF1)
DL_TFC21	(TF0, TF0, TF0, TF2, TF1)
DL_TFC22	(TF1, TF0, TF0, TF2, TF1)
DL_TFC23	(TF2, TF1, TF1, TF2, TF1)
DL_TFC24	(TF0, TF0, TF0, TF3, TF1)
DL_TFC25	(TF1, TF0, TF0, TF3, TF1)
DL_TFC26	(TF2, TF1, TF1, TF3, TF1)
DL_TFC27	(TF0, TF0, TF0, TF4, TF1)
DL_TFC28	(TF1, TF0, TF0, TF4, TF1)
DL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Sub-tests:

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitely tested	Restricted UL TFCIs	UL RLC SDU size (bits) Note 1	Test data size (bits) Note 1
1	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC15, DL_TFC16, UL_TFC0, UL_TFC15, UL_TFC16	UL_TFC0, UL_TFC1, UL_TFC15, UL_TFC16	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC15, DL_TFC17, UL_TFC0, UL_TFC15, UL_TFC17	UL_TFC0, UL_TFC2, UL_TFC15, UL_TFC17	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: No data
3	DL_TFC3	UL_TFC3	DL_TFC0, DL_TFC15, DL_TFC18, UL_TFC0, UL_TFC15, UL_TFC18	UL_TFC0, UL_TFC3, UL_TFC15, UL_TFC18	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: No data RB6: No data RB7: No data RB8: 336
4	DL_TFC4	UL_TFC4	DL_TFC0, DL_TFC15, DL_TFC19, UL_TFC0, UL_TFC15, UL_TFC19	UL_TFC0, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 576	RB5: 39 RB6: No data RB7: No data RB8: 576
5	DL_TFC5	UL_TFC5	DL_TFC0, DL_TFC15, DL_TFC20, UL_TFC0, UL_TFC15, UL_TFC20	UL_TFC0, UL_TFC5, UL_TFC15, UL_TFC20	RB5: 81 RB6: 103 RB7: 60 RB8: 576	RB5: 81 RB6: 103 RB7: 60 RB8: 576
6	DL_TFC6	UL_TFC6	DL_TFC0, DL_TFC15, DL_TFC21, UL_TFC0, UL_TFC15, UL_TFC21	UL_TFC0, UL_TFC6, UL_TFC15, UL_TFC21	RB5: 39 RB6: 103 RB7: 60 RB8: 1152	RB5: No data RB6: No data RB7: No data RB8: 1152
7	DL_TFC7	UL_TFC7	DL_TFC0, DL_TFC15, DL_TFC22, UL_TFC0, UL_TFC15, UL_TFC22	UL_TFC0, UL_TFC7, UL_TFC15, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 1152	RB5: 39 RB6: No data RB7: No data RB8: 1152
8	DL_TFC8	UL_TFC8	DL_TFC0, DL_TFC15, DL_TFC23, UL_TFC0, UL_TFC15, UL_TFC23	UL_TFC0, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 1152	RB5: 81 RB6: 103 RB7: 60 RB8: 1152
9	DL_TFC9	UL_TFC9	DL_TFC0, DL_TFC15, DL_TFC24, UL_TFC0, UL_TFC15, UL_TFC24	UL_TFC0, UL_TFC9, UL_TFC15, UL_TFC24	RB5: 39 RB6: 103 RB7: 60 RB8: 1728	RB5: No data RB6: No data RB7: No data RB8: 1728
10	DL_TFC10	UL_TFC10	DL_TFC0, DL_TFC15, DL_TFC25, UL_TFC0, UL_TFC15, UL_TFC25	UL_TFC0, UL_TFC10, UL_TFC15, UL_TFC25	RB5: 39 RB6: 103 RB7: 60 RB8: 1728	RB5: 39 RB6: No data RB7: No data RB8: 1728
11	DL_TFC11	UL_TFC11	DL_TFC0, DL_TFC15, DL_TFC26, UL_TFC0, UL_TFC15, UL_TFC26	UL_TFC0, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 1728	RB5: 81 RB6: 103 RB7: 60 RB8: 1728
12	DL_TFC12	UL_TFC12	DL_TFC0, DL_TFC15, DL_TFC27, UL_TFC0, UL_TFC15, UL_TFC27	UL_TFC0, UL_TFC12, UL_TFC15, UL_TFC26	RB5: 39 RB6: 103 RB7: 60 RB8: 2304	RB5: No data RB6: No data RB7: No data RB8: 2304
13	DL_TFC13	UL_TFC13	DL_TFC0, DL_TFC15, DL_TFC28, UL_TFC0, UL_TFC15, UL_TFC28	UL_TFC0, UL_TFC13, UL_TFC15, UL_TFC27	RB5: 39 RB6: 103 RB7: 60 RB8: 2304	RB5: 39 RB6: No data RB7: No data RB8: 2304
14	DL_TFC14	UL_TFC14	DL_TFC0, DL_TFC15, DL_TFC29, UL_TFC0, UL_TFC15, UL_TFC29	UL_TFC0, UL_TFC14, UL_TFC15, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 2304	RB5: 81 RB6: 103 RB7: 60 RB8: 2304

Note 1 See [10] TS 34.109 clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 14.1.1 for test procedure.

14.2.45.4 Test requirements

See 14.1.1 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: RB5/TF1 (1x39).
   - for sub-test 2: RB5/TF2 (1x81); RB6/TF1 (1x103); and RB7/TF1 (1x60).
   - for sub-test 3: RB8/TF1 (1x576)
   - for sub-test 4: RB5/TF1 (1x39) and RB8/TF1 (1x576).
   - for sub-test 5: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF1 (1x576).
   - for sub-test 6: RB8/TF2 (2x576)
   - for sub-test 7: RB5/TF1 (1x39) and RB8/TF2 (2x576).
   - for sub-test 8: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF2 (2x576).
   - for sub-test 9: RB8/TF2 (3x576)
   - for sub-test 10: RB5/TF1 (1x39) and RB8/TF3 (3x576).
   - for sub-test 11: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF3 (3x576).
   - for sub-test 12: RB8/TF2 (4x576)
   - for sub-test 13: RB5/TF1 (1x39) and RB8/TF4 (4x576).
   - for sub-test 14: RB5/TF2 (1x81); RB6/TF1 (1x103); RB7/TF1 (1x60); and RB8/TF4 (4x576).
3. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB5 having the same content as sent by SS; and no data shall be received on RB6, RB7 and RB8.
   - for sub-test 2: an RLC SDU on RB5, RB6 and RB7 having the same content as sent by SS; and no data shall be received on RB8.
   - for sub-test 3, 6, 9 and 12: an RLC SDU on RB8 having the same content as sent by SS; and no data shall be received on RB5, RB6 and RB7.
   - for sub-test 4, 7, 10 and 13: an RLC SDU on RB5 and RB8 having the same content as sent by SS; and no data shall be received on RB6 and RB7.
   - for sub-test 5, 8, 11 and 14: an RLC SDU on RB5, RB6, RB7 and RB8 having the same content as sent by SS.

14.2.46 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.46.

14.2.47 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.47.

14.2.48 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming / unknown / UL:0 DL:384 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.48.

14.2.49 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.49.

14.2.50 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Conversational / unknown / UL:64 DL:64 kbps / CS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.50.

14.2.51 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:64 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.51.

14.2.52 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.52.

14.2.53 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:128 DL:128 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.53.

14.2.54 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:64 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.54.

14.2.55 Interactive or background / UL:64 DL:128 kbps / PS RAB + Streaming / unknown / UL:0 DL:128 kbps / CS or PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.1.55.

14.3 Combinations on PDSCH and DPCH

14.3.1 Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.2.1.

14.3.2 Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.2.2.

14.3.3 Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL: 3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.2.3.

14.3.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:256 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.2.4.

14.3.5 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:384 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.2.5.

14.3.6 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:64 DL:2048 kbps / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.2.6.

14.4 Combinations on SCCPCH

14.4.1 Stand-alone signalling RB for PCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.3.1.

14.4.2 Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.3.2.

14.4.3 Interactive/Background 32 kbps RAB + SRBs for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.3.3.

14.5 Combinations on PRACH

14.5.1 Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.2.4.4.1.

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000
3GPP/TSG T1/SIG Meeting #14
Redondo Beach, USA, 13-15 November 2000

Document T1-000292
e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

Document T1S000243
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CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

34.123-1	CR	040	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ | *↑ CR number as allocated by MCC support team*

For submission to:	T#10	For approval	X	strategic		(for SMG
list expected approval meeting # here ↑		for information		non-strategic		use only)

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Matsushita Communication Industry Co.,Ltd., Nokia, ETSI **Date:** 13/11/2000

Subject: Technical Corrections to RRC test cases in clause 8

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change:

1. In clause 8.1.1.2.4, under the specific message content sub-clause for PAGING TYPE 1 message in step 4, the "paging originator" IE should be "UTRAN originator" instead of "CN originator". Also, SIB 13 (not SIB 12) should be sent. For the expected sequence sub-clause, step 6 is added to complete the cell update procedure properly.
2. In clause 8.1.1.3.3, the correct value to use in the "paging originator" IE should be "UTRAN originator". This IE is wrongly specified in the conformance requirement statement.
3. In clause 8.1.1.5.4, the specific message content of PAGING TYPE 1 message in step 2 should have the "U-RNTI" IE set to the assigned UE identity. This is corrected.
4. In clause 8.1.1.7.4, the initial condition statement for the UE is ambiguous. In the beginning of the test, the UE should have executed a location registration (MM) or an attach (GMM) procedure so that TMSI or P-TMSI is assigned to it. Next, either identities are de-allocated using the detach procedure. In step 1, the SS shall attempt to page the UE using TMSI or P-TMSI assigned previously. The specific message content for PAGING TYPE 2 in step 1 is also revised.
5. For clauses 8.1.1.7 and 8.1.1.8, the reference clause in TS 25.331 V3.3.0 should be 8.1.11.
6. For clauses 8.1.1.8.4, step 3 in the expected sequence sub-clause should explicitly state that UE responds by sending UPLINK DIRECT TRANSFER. Correspond to this, the second test requirement in clause 8.1.1.8.5 is expanded.
7. In clause 8.1.2.1.4, the test procedure and test requirements sub-clauses are amended. Specifically, it is clarified that UE shall transmit RRC CONNECTION REQUEST twice. SS replies with a RRC CONNECTION SETUP message with unmatched "Initial UE identity" IE for the first attempt. For the second attempt, SS sends the same message with a matched "Initial UE identity" IE. A spelling mistake in step 2 specific message content has been corrected.
8. In clause 8.1.2.6.4, the second RRC CONNECTION REQUEST message shall be transmitted by the UE 15 seconds after SS has sent the second RRC CONNECTION REJECT message. The "protocol error indicator" IE in this message shall be set to "TRUE". The expected sequence and specific message content sub-clauses are revised. The test requirements in clause 8.1.2.6.5 is also updated accordingly.
9. For clauses 8.1.4.3.X and 8.1.4.4.X, the following errors are identified and corrected:
   - UE need not wait until T301 to expire before re-transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST message. Therefore, texts requiring that the messages should be received at intervals of T301 are removed.
   - The 'Specific Message Content' sub-clauses are expanded to differentiate between first and subsequent RRC CONNECTION RE-ESTABLISHMENT REQUEST messages on the uplink. Also specify the differences in RRC CONNECTION RE-ESTABLISHMENT messages used in different test steps.
   - The total number of RRC CONNECTION RE-ESTABLISHMENT REQUEST messages in clause 8.1.4.3.X should be N301+1 instead of N301-1.
   - In the last step for clause 8.1.4.4.X, the UE shall stop transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST messages exactly after (N301+1) transmissions. This is explicitly specified.
10. In clause 8.2.1.2.4, the "Integrity protection algorithm" IE for RADIO BEAER SETUP message in specific message content sub-clause is incorrectly specified. This IE can only take an enumerated value of "UIA1".
11. In clause 8.1.1.4.4, the specific message content of PAGING TYPE 1 message in step 2 should have the "Paging originator" IE set to the "CN originator" in order for the UE to respond in idle mode. The PAGING TYPE 1 message is also modified to include the IMSI identity stored in the USIM.
12. In clause 8.3.2.1.4, the URA-IDs quoted in the 'test procedure' and 'expect sequence' sub-clauses are not in correct order. It is clarified that the current URA ID stored in the UE is URA-ID 1, while the broadcasted URA-ID list contains only URA-ID 2.
13. In clause 8.3.1.1.5, after step 5 the UE should send CELL UPDATE message to cell 1 instead of cell 2 and after step 9 the UE should send CELL UPDATE message to cell 2 instead of cell 1.
14. In clause 8.3.1.2.4, the message content of CELL UPDATE CONFIRM (Step 4) should use the same message found in step 11 of Clause 8.3.1.1.3 instead of Clause 8.1.3.1.1.3.
15. In clause 8.3.1.7.4, step 7 and step 13 of the expected sequence, U-RNTI should be corrected to become C-RNTI.

Clauses affected:	8.1.1.2.4, 8.1.1.3.3, 8.1.1.4.4, 8.1.1.5.4, 8.1.1.7.4, 8.1.1.8.4, 8.1.4.3.X, 8.1.4.4.X 8.1.2.1.4, 8.1.2.6.X 8.2.1.23 (new), 8.2.1.24(new), 8.2.1.25(new), 8.2.1.26(new), 8.2.2.27(new), 8.2.2.28(new), 8.2.2.29(new), 8.2.2.30(new), 8.2.3.22(new), 8.2.3.23(new), 8.2.3.24(new), 8.2.3.25(new), 8.2.4.24(new), 8.2.4.25(new), 8.2.4.26(new), 8.2.4.27(new), 8.2.6.23(new), 8.2.6.24(new), 8.2.6.25(new), 8.2.6.26(new) 8.2.1.6, 8.2.1.11, 8.2.1.17, 8.2.1.21, 8.2.2.5, 8.2.2.11, 8.2.2.18, 8.2.2.24, 8.2.3.5, 8.2.3.10, 8.2.3.16, 8.2.3.20, 8.2.4.5, 8.2.4.11, 8.2.4.17, 8.2.4.22, 8.2.6.5, 8.2.6.10, 8.2.6.16, 8.2.6.21 8.2.1.2.4, 8.3.1.2.4, 8.3.1.14.4, 8.3.1.1.5, 8.3.1.2.4, 8.3.1.7.4, 8.3.1.8.4, 8.3.1.12.4, 8.3.1.13.3, 8.3.1.14.4, 8.3.2.4.4, 8.3.2.5.4 8.4.1.1, 8.4.1.2, 8.4.1.3, 8.4.1.4, 8.4.1.5.X, 8.4.1.6.X, 8.4.1.7.X, 8.4.1.8.X 8.1.4.6, 8.1.4.7, 8.1.4.8, 8.1.5.1, 8.1.5.2, 8.1.5.3, 8.1.5.4 (new), 8.1.5.5 (new), 8.1.7 (re-numbered to 8.1.7.1), 8.1.7.2 (new), 8.1.8 (re-numbered to 8.1.8.1), 8.1.8.2 (new), 8.2.9.3, 8.1.5.1. Annex A

Other specs affected:			
Other 3G core specifications		→	List of CRs:
Other GSM core specifications		→	List of CRs:
MS test specifications	X	→	List of CRs:
BSS test specifications		→	List of CRs:
O&M specifications		→	List of CRs:

Other comments:	

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8. Layer 3

8 Radio Resource Control RRC

8.1 RRC Connection Management Procedure

8.-1.1 Paging

8.1.1.1 Paging for Connection in idle mode

8.1.1.1.1 Definition

8.1.1.1.2 Conformance requirement

In idle mode, UE monitors the paging occasions determined using parameters from SYSTEM INFORMATION BLOCK messages. When the UE receives a PAGING TYPE 1 message transmitted on PCCH during one of its assigned paging occasions, it should attempt to establish an RRC connection.

Reference

3GPP TS 25.331 clause 8.1.2, 3GPP TS 25.211 clause 5.3.3.7, 3GPP TS ~~25.304 clause~~25.304 clause 8.

8.1.1.1.3 Test purpose

To confirm that the UE establishes an RRC connection after it receives a PAGING ~~TYPE1~~TYPE 1 message which includes IE "Paging Record"(UE identity-) set to the IMSI -of the UE.

8.1.1.1.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :Idle~~UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108 -with a CN UE identity (set to IMSI).

Test Procedure

The SS transmits a PAGING ~~TYPE1~~TYPE 1 message, which includes an unmatched CN UE identity for the UE in the idle state. The UE shall not change its state. The SS transmits a PAGING ~~TYPE1~~TYPE 1 message, which includes a matched CN UE identity for the UE in the idle state. During transmission of PAGING TYPE 1 messages, SS selects the correct paging indicator on the PICH in order to allow the UE to respond to paging. Then the UE transmits an RRC CONNECTION REQUEST to the SS, the SS transmits an RRC CONNECTION SETUP to the UE. When the UE receives this message, the UE establishes an RRC connection.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		SYSTEM INFORMATION BLOCK TYPE 13	Transmit these messages on the BCCH, in addition to the normal BCCH transmissions. See specific message contents.
2	←		PAGING ~~TYPE1~~TYPE 1	The SS transmits the message, which includes an unmatched identity (incorrect IMSI), ~~then~~ and the UE does not change its state.
3	←		PAGING ~~TYPE1~~TYPE 1	The SS transmits the message, which includes a matched identity (test-SIM IMSI).
4	→		RRC CONNECTION REQUEST	
5	←		RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish an RRC connection.

Specific Message Contents

SYSTEM INFORMATION TYPE 13

Information Element	Value/remark
CN domain system information list	Only 1 entry
CN domain system information	
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE CN Type	Supported CN type
- CN domain specific NAS system information	Default
- CN domain specific DRX cycle length coefficient	6
UE Timers and constants in idle mode	
- T300	5 sec.
- N300	3
- T312	10 sec
- N312	200

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to an arbitrary octet string of length 7 bytes which is different from the IMSI value stored in the USIM card.

PAGING TYPE 1 (Step 3)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card

RRC CONNECTION REQUEST (Step 4)

Information Element	Value/remark
Initial UE identity	Same as the IMSI stored in the USIM card, or the registered TMSI or P-TMSI
Establishment Cause	Check to see if it is set to the same value as "Paging Cause" IE in the PAGING TYPE 1 message transmitted on step 3.
Protocol Error Indicator	Check to see if it is set to FALSE
Measured results on RACH	Not checked.

8.1.1.1.5 Test requirement

After step 2 the UE shall not transmit on the uplink CCCH in order to establish a RRC connection.

After step 5 the UE shall have an RRC connection based on dedicated physical channel resources.

8.1.1.2 Paging for Connection in connected mode (CELL_PCH)

8.1.1.2.1 Definition

8.1.1.2.2 Conformance requirement

In CELL_PCH state, a UE can respond to a paging request from UTRAN. In this case, the UTRAN has requested to establish a connection with the UE. The UE should then attempt to perform a cell update procedure and move to CELL_FACH state in order to respond to the paging using uplink CCCH.

Reference

3GPP TS 25.331 clause 8.1.2

8.1.1.2.3 Test purpose

To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE 1 message which indicates that the paging has originated from UTRAN. To verify that the UE performs cell update procedure after entering the CELL_FACH state.

8.1.1.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH state (state 6-15) as specified in clause 7.4 of TS 34.108 with a valid U-RNTI already assigned by the SS

Test Procedure

The SS transmits a PAGING ~~TYPE1~~TYPE 1 message, which includes an unmatched U-RNTI in CELL_PCH state. The UE does not change its state. Then SS transmits a PAGING TYPE 1 message with a matched identifier but originates from the CN instead of UTRAN. The UE should not change state after receiving this message. The SS transmits a PAGING ~~TYPE1~~TYPE 1 message, which includes a matched U-RNTI in the connected state. Then the UE enters the CELL_FACH state and performs the cell updating procedure.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		SYSTEM INFORMATION BLOCK TYPE 13	Transmit these messages on the BCCH, in addition to the normal BCCH transmissions. See specific message contents
2	←		PAGING TYPE 1	The SS transmits a message including an unmatched identifier. UE shall not respond to the paging.
3	←		PAGING TYPE 1	The SS transmits a message includes a matched identifier but with the originator being the CN, UE shall not respond to the paging.
4	←		PAGING TYPE 1	The SS transmits the message with the UTRAN being the originator and including the UE's assigned U-RNTI
5	→		CELL UPDATE	The UE enters the CELL_FACH state. UE performs cell updating procedure. The CELL UPDATE message shall contain the value "Cell Update Cause" set to "paging response".
6	←		CELL UPDATE CONFIRM	Use the default message specified in Annex A.

Specific Message Contents

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	Only 1 entry UTRAN originator Set to an arbitrary 16-bit string which is different from the SRNC identity- assigned. Set to an arbitrary 20-bit string which is different from the S-RNTI assigned.

PAGING TYPE 1 (Step 3)

Same as the PAGING TYPE 1 message as in Clause 8.1.1.1.4, with the exception that the "BCCH modification info" IE should be omitted in the message.

PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	Only 1 entry ~~CN~~ UTRAN originator Set to the same SRNC identity as previously assigned. Set to the same S-RNTI as previously assigned.

SYSTEM INFORMATION BLOCK TYPE ~~12~~13

Use the ~~S~~same ~~as the~~ SYSTEM INFORMATION BL~~C~~OCK TYPE 13 message ~~used~~ as specified in Clause 8.1.1.1.~~3~~4.

8.1.1.2.5 Test requirement

After step 2- the UE shall not respond to the PAGING TYPE 1 message sent in step 2.

After step 3, the UE shall not respond to the PAGING TYPE 1 message sent in step 2.

After step 4, the UE shall enter the CELL FACH state and send a CELL UPDATE message with "Cell Update Cause" IE set to "paging response".

8.1.1.3 Paging for Connection in connected mode(URA_PCH)

8.1.1.3.1 Definition

8.1.1.3.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 1 message from the network to selected UEs in URA_PCH state using the paging control channel (PCCH). The UE listens to it and then enters the CELL_FACH state.

Reference

3GPP TS 25.331 clause 8.1.2

8.1.1.3.3 Test purpose

To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE_1 message which includes IE "Paging Record"(U-RNTI) for the UE and which is set to "~~CN~~UTRAN originator" in IE "paging originator".

8.1.1.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH state (state 6-16) as specified in clause 7.4 of TS 34.108 with a valid U-RNTI assigned by the SS

Test Procedure

The SS transmits a PAGING TYPE_1 message, which includes an unmatched U-RNTI in URA_PCH state. The UE does not change its current state. The SS transmits a PAGING TYPE_1 message which includes a matched U-RNTI in the connected state. Then the UE listens to it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PAGING TYPE_1	The SS transmits the message that includes an unmatched identifier, then the UE does not change its state.
2	←		PAGING TYPE_1	The SS transmits the message that includes a matched identifier.
3	→		CELL UPDATE	The UE enters the CELL_FACH state.

Specific Message Contents

PAGING TYPE 1 (Step 1)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	Only 1 entry UTRAN originator Set to an unused SRNC identity which is different from the SRNC identity assigned. Set to an arbitrary 20-bit string which is different from the S-RNTI assigned.

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	Only 1 entry UTRAN originator Set to the previously assigned SRNC identity Set to previously assigned S-RNTI

8.1.1.3.5 Test requirement

After step 1 the UE shall not respond to the paging.

After step 2 the UE shall enter the CELL FACH state, and transmit CELL UPDATE message to initiate the cell updating procedure with the paging cause set to “paging response”.

8.1.1.4 Paging for Notification in idle mode

8.1.1.4.1 Definition

8.1.1.4.2 Conformance requirement

When a system information block on the BCCH is modified, the PAGING TYPE 1 message can be sent on the PCCH to inform the UE about the changes, which are currently taking place in the idle mode. The PAGING TYPE 1 message includes the IE "BCCH Modification Information". Upon receiving this notification from the UTRAN, the UE shall read the relevant MIB and/or SIB(s) subsequently during idle mode.

Reference

3GPP TS 25.331 clause 8.1.1.2

8.1.1.4.3 Test purpose

To confirm that the UE checks the new value tag of the master information block and reads the updated SYSTEM INFORMATION BLOCK messages after it receives a PAGING TYPE 1 message which includes the IE "BCCH Modification Information".

8.1.1.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108 with a CN UE identity.

Test Procedure

The UE is in the idle state before it starts to change the SYSTEM INFORMATION BLOCK TYPE 1 or 13 messages, depending on the CN type supported by the UE. The SS transmits a PAGING ~~TYPE1~~TYPE 1 message on the paging occasions assigned to the UE. The message shall include the IE "BCCH Modification Information" indicating the time when the first modified master information block is available. Before the starting time, SS continuously broadcast the original MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on the BCCH mapped to BCH transport channel. SS maintains this status until the SFN which corresponds to the starting time is reached. Then it transmits the new master information block followed by the new SYSTEM INFORMATION BLOCK TYPE 1 or 13 messages. In the new SIB TYPE 1 or 13 messages, the IE "DRX Cycle Length Coefficient" is altered when compared to the original SIB TYPE 1 or 13 messages. . At the next paging occasion, SS transmits a new PAGING TYPE 1 message. The message addresses the UE using its IMSI and the "paging cause" IE set to a terminating call type that is supported by the UE. The UE shall react to the PAGING TYPE 1 message and then send a RRC CONNECTION REQUEST message to SS.

Notes: For UEs supporting GSM-MAP CN type only, SYSTEM INFORMATION TYPE 1 messages are to be sent by SS in this test case. On the other hand, SS transmits SYSTEM INFORMATION TYPE 13 messages if the UE under test supports only ANSI-41 CN type.

-Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 or SYSTEM INFORMATION BLOCK TYPE 13	SS transmits information on BCCH in order for UE to listen to one of the S-CCPCH physical channel, which carries PAGING TYPE 1 or 13 messages on PCCH. Relevant paging parameters are also broadcasted.
2		←	PAGING TYPE 1	SS transmits the message includes the IE "BCCH Modification Information", with the "Value Tag" changed from the "MIB Value Tag" of the current Master Information Block. Also the modification time is set to 4088 radio frame from the current SFN. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH for a period stretching 4087 frames.
3		← ←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 or SYSTEM INFORMATION BLOCK TYPE 13	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting. At the same time, SS starts to transmit the affected SIB TYPE 1 or TYPE 13 messages continuously. The value of IE "DRx Cycle Length Coefficient" is changed in this message. SS starts to monitor the uplink RACH after approximately 4087 frames from step 2.
4		←	PAGING TYPE 1	SS starts to transmit this message continuously on the PCCH according to the new value of "DRx Cycle Length Coefficient", at the next paging occasion immediately following step 3.
5		→	RRC CONNECTION REQUEST	UE transmits a request due to answer to the PAGING TYPE 1 received in step 4. The IE "Establishment Cause" should be set to "Terminating Call" supported by the UE and the "Initial UE Identity" set to UE's IMSI.
6		←	RRC CONNECTION REJECT	UE shall return to idle mode after receiving this message

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 1 (Step 1) – for UEs supporting GSM-MAP core networks

Information Element	Value/remark
References to other system information blocks	Not Present
CN common GSM-MAP NAS system information	Location Area Information (LAI)
CN domain system information list	Supports both CS and PS domains
- CN domain system information	
- CN domain identity	CS domain
- CHOICE CN Type	GSM-MAP
- CN domain specific NAS system information	Set to the same octet string as in IE "CN common GSM MAP-NAS system information"
- CN domain specific DRX cycle length coefficient	12
- CN domain system information	
- CN domain identity	PS domain
- CHOICE CN Type	GSM-MAP
- CN domain specific NAS system information	Set to the same octet string as in IE "CN common GSM MAP-NAS system information"
- CN domain specific DRX cycle length coefficient	12
UE Timers and constants in idle mode	
- T300	Default
- N300	Default
- T312	Default
- N312	Default
UE Timers and constants in connected mode	Not Present

SYSTEM INFORMATION BLOCK TYPE 13 (Step 1) – for UEs supporting ANSI-41 core networks

Information Element	Value/remark
References to other system information blocks	Not Present
CN domain system information list	Supports both CS and PS domains
CN domain system information	
- CN domain identity	CS
- CHOICE CN Type	ANSI-41
- CN domain specific NAS system information	
- ANSI-41 NAS System Information	
- ANSI-41 NAS Parameter	Set to an ANSI-41 user zone information
- CN domain specific DRX cycle length coefficient	12
- CN domain identity	PS
- CHOICE CN Type	ANSI-41
- CN domain specific NAS system information	
- ANSI-41 NAS System Information	
- ANSI-41 NAS Parameter	Set to an ANSI-41 user zone information
- CN domain specific DRX cycle length coefficient	12
UE Capability update requirement	Not Present

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
- CHOICE Paging originator	~~UTRAN~~ CN originator
- Paging Cause	Terminating Call with one of the supported services (Conversation Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN Domain Identity	CS Domain
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI value stored in the USIM card
~~- U-RNTI~~	
~~- SRNC Identity~~	~~Arbitrarily selecte a SRNC identity which is different from current identity~~
~~- S-RNTI Identity~~	~~Arbitrarily selecte a S-RNTI identity which is different from current identity~~
BCCH modification info	
MIB Value Tag	2
BCCH Modification time	4088

MASTER INFORMATION BLOCK (Step 3)

Information Element	Value/remark
MIB Value tag	2

SYSTEM INFORMATION BLOCK TYPE 1 (Step 3) – for UEs supporting GSM-MAP core networks

Information Element	Value/remark
References to other system information blocks	Not Present
CN common GSM-MAP NAS system information	Location Area Information (LAI)
CN domain system information list	Supports both CS and PS domains
- CN domain system information	
- CN domain identity	CS domain
- CHOICE CN Type	GSM-MAP
- CN domain specific NAS system information	Set to the same octet string as in IE "CN common GSM MAP-NAS system information"
- CN domain specific DRX cycle length coefficient	6
- CN domain system information	
- CN domain identity	PS domain
- CHOICE CN Type	GSM-MAP
- CN domain specific NAS system information	Set to the same octet string as in IE "CN common GSM MAP-NAS system information"
- CN domain specific DRX cycle length coefficient	6
UE Timers and constants in idle mode	
- T300	Default
- N300	Default
- T312	Default
- N312	Default
UE Timers and constants in connected mode	Not Present

SYSTEM INFORMATION BLOCK TYPE 13 (Step 3) – for UEs supporting ANSI-41 core networks

Information Element	Value/remark
References to other system information blocks	Not Present
CN domain system information list	Supports both CS and PS domains
CN domain system information	
- CN domain identity	CS domain
- CHOICE CN Type	ANSI-41
- CN domain specific NAS system information	
- ANSI-41 NAS system information	
- ANSI-41 NAS Parameter	Set to an ANSI-41 user zone information
- CN domain specific DRX cycle length coefficient	6
- CN domain identity	PS domain
- CHOICE CN Type	ANSI-41
- CN domain specific NAS system information	
- ANSI-41 NAS system information	
- ANSI-41 NAS Parameter	Set to an ANSI-41 user zone information
- CN domain specific DRX cycle length coefficient	6

PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
- CHOICE Paging originator	CN originator
- Paging Cause	Terminating Call with one of the supported service (Conversation Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN Domain Identity	CS Domain
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI value stored in the USIM card

RRC CONNECTION REJECT (Step 6)

Information Element	Value/remark
Initial UE identity	
- CHOICE UE id type	IMSI
- IMSI	Set to the same octet string as in the IMSI value stored in the USIM card
Rejection cause	Unspecified
Wait time	0
Redirection info	Not Present

8.1.1.4.5 Test requirement

After step 5 ~~-~~the UE shall transmit RRC CONNECTION REQUEST message in response to the PAGING TYPE 1 messages sent ~~starting from~~in step 4.

8.1.1.5 Paging for Notification in connected mode (CELL_PCH)

8.1.1.5.1 Definition

8.1.1.5.2 Conformance requirement

When a system information block on the BCCH is modified, the message PAGING TYPE_1 can be sent on the PCCH to inform the UE about this change in the CELL_PCH state. This message includes the IE_"BCCH Modification Information". Upon receiving this notification from the UTRAN, the UE shall read the relevant MIB and/or SIB(s) subsequently while in CELL_PCH state.

Reference

3GPP TS 25.331 clause 8.1.1.2

8.1.1.5.3 Test purpose

To confirm that the UE enters the CELL_FACH state, checks the new value tag of the master information block, and read the SYSTEM INFORMATION messages after it receives a PAGING TYPE_1 message which includes the IE_"BCCH Modification Information"

8.1.1.5.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: CELL_PCH state (state 6-15) as specified in clause 7.4 of TS 34.108 –with valid a U-RNTI assigned to it.

Test Procedure

Identical test steps 1 to 5 in Clause 8.1.1.4 are applied to this test. However, the PAGING TYPE 1 messages used in step 2 and step 4 are altered. The changes are indicated in the specific message content paragraph under this clause. At step 6, UE shall send the CELL UPDATE message indicating the "cell update cause" to be "paging response". SS then replies with a CELL UPDATE CONFIRM message to allow the UE to transit to CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 or SYSTEM INFORMATION BLOCK TYPE 13	SS transmits information on BCCH in order for UE to listen to one of the S-CCPCH physical channel, which carries PAGING TYPE 1 or 13 messages on PCCH. Relevant paging parameters are also broadcasted.
2		←	PAGING TYPE 1	SS transmits the paging message which comprises IE "BCCH Modification Information", with the "Value Tag" changed from the "MIB Value Tag" of the current Master Information Block. Also the modification time is set to 4088 radio frame from the current SFN. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH for a period stretching 4087 frames.
3		← ←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 or SYSTEM INFORMATION BLOCK TYPE 13	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting. At the same time, SS starts to transmit the affected SIB TYPE 1 or TYPE 13 messages continuously. The value of IE "DRx Cycle Length Coefficient" is changed in this message. SS starts to monitor the uplink RACH after approximately 4087 SFN from step 2.
4		←	PAGING TYPE 1	SS transmits this message continuously on the PCCH according to the new value of "DRx Cycle Length Coefficient", at the next paging occasion immediately following step 3. This message shall page the UE with its U-RNTI and setting the UTRAN as the paging originator.
5		→	CELL UPDATE	The IE "Cell Update Cause" should be set to "Paging Response" and the IE "U-RNTI" shall be similar to the UE's U-RNTI value. The "Protocol Error Indicator" IE shall be set to FALSE.
6		←	CELL UPDATE CONFIRM	UE shall transit to CELL_FACH state after receiving this message.

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 1 or TYPE 13 (Step 1)

The content of this message is the same in the message used in step 1 specified in Clause 8.1.1.4.3.

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI BCCH modification info - MIB Value Tag - BCCH Modification time	Only 1 entry UTRAN originator Equal to the U-RNTI assigned earlier. ~~Set to a different string from currently allocated SRNC identity~~ ~~Set to an arbitrary 20-bits string~~ 2 4088

MASTER INFORMATION BLOCK (Step 3) and

SYSTEM INFORMATION BLOCK TYPE 1 or TYPE 13 (Step 3)

The content of these messages is the same in the message used in step 3 specified in Clause 8.1.1.4.4.

PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI BCCH modification info	Only 1 entry UTRAN originator Equal to the U-RNTI assigned earlier. Same as the current SRNC allocated Same as the current S-RNTI allocated Not Present

CELL UPDATE CONFIRM (Step 6)

Information Element	Value/remark
DRX Indicator	DRx with Cell Updating

8.1.1.5.5 Test requirement

After step 5 the UE shall transmit a CELL UPDATE message with “cell update cause” IE set to “paging response”. Upon receiving CELL UPDATE CONFIRM message, the UE shall enter the CELL_FACH state.

8.1.1.6 ~~Paging for Notification in connected mode (URA_PCH)~~

8.1.1.6.1 ~~Definition~~

8.1.1.6.2 Conformance requirement

When a system information block on the BCCH is modified, the UTRAN can send a PAGING TYPE 1 message on the PCCH to inform UE about the changes while the UE is in the URA_PCH state. This message includes the IE ”BCCH Modification Information”. When receiving this message in URA_PCH state, the UE shall read the relevant MIB and/or SIB(s).

Reference

3GPP TS 25.331 clause 8.1.1.2

8.1.1.6.3 Test purpose

To confirm that the UE enters the CELL_FACH state, checks the included new value tag of the master information block and reads the relevant SYSTEM INFORMATION block(s) after it receives a PAGING TYPE 1 message which includes the IE "BCCH Modification Information".

8.1.1.6.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH state (state 6-16) as specified in clause 7.4 of TS 34.108 with a valid U-RNTI assigned.

Test Procedure

The UE is in the URA_PCH state before the SS starts changing SYSTEM INFORMATION BLOCK messages. SS modifies its SYSTEM INFORMATION and updates the "value tag" of both the SYSTEM INFORMATION BLOCK TYPE 1 and of the MASTER INFORMATION BLOCK. After a while, the SS transmits a PAGING TYPE 1 message, which includes the IE "BCCH Modification Information". The UE enters the CELL_FACH state and reads the modified SYSTEM INFORMATION BLOCK. The UE shall act according to the modified message. In this test case, the UE shall adjust it paging occasions and read the new PCCH blocks newly assigned to it under DRX mode.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION	The SS changes the SYSTEM INFORMATION when the UE is in the connected state (URA_PCH).
2		←	PAGING TYPE 1	SS transmits the message includes the IE "BCCH Modification Information".
3				The UE enters the CELL_FACH state and reads the SYSTEM INFORMATION and then the UE follows this message.

Specific Message Contents

None

8.1.1.6.5 Test requirement

After step 2 the UE shall enter the CELL_FACH state and read the SYSTEM INFORMATION message and follow it.

8.1.1.7 Paging for Connection in connected mode (CELL_DCH)

8.1.1.7.1 Definition

8.1.1.7.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 2 message from the network to selected UEs in CELL_DCH state using the dedicated control channel (DCCH). The UE listens to it and responds to this message accordingly.

Reference

3GPP TS 25.331 clause 8.1.~~9~~11

8.1.1.7.3 Test purpose

To confirm that the UE responds this message after it receives a PAGING TYPE 2 message which includes IE "Paging Record Type Identifier" for the UE.

8.1.1.7.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell.

UE~~-~~: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108–, after executing a location registration or attach procedure followed by the release of the TMSI of P-TMSI allocated.~~but neither a valid TMSI nor P-TMSI is assigned to the UE~~

Test Procedure

The SS transmits a PAGING TYPE 2 message which includes an unmatched Paging Record Type Identifier in CELL_DCH state. The UE shall not respond to this message. SS pages the UE again, this time with a matched Paging Record Type Identifier but with the IE "paging cause" set to one of the spare values. UE shall respond by transmitting a RRC STATUS message on the DCCH using RLC-AM mode. Finally, SS transmits a PAGING TYPE 2 message, which includes a matched Paging Record Type Identifier. Then the UE shall responds to this message by the transmission of an upper layer message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE 2	The SS transmits the message includes an unmatched identifier, then the UE does not respond.
2		←	PAGING TYPE 2	The SS transmits the message includes a matched identifier. In the paging message, IE "paging cause" is set to one of the spare values.
3		→	RRC STATUS	The UE shall respond by reporting the protocol error to the SS.
4		←	PAGING TYPE 2	SS pages the UE with a matched identifier and with a valid "paging cause" IE.
5		→	UPLINK DIRECT TRANSFER	The UE shall respond to the paging message sent in step 4.

Specific Message Contents

PAGING TYPE 2 (Step 1)

Information Element	Value/remark
Paging cause	Terminating Call supported by the UE
CN domain identity	Domain supported by the UE
Paging Record Type Identifier	Set to "TMSI" or "P-TMSI" allocated during the execution of location registration or attach procedure respectively

PAGING ~~-~~TYPE 2 (Step 2)

Information Element	Value/remark
Paging cause CN domain identity Paging Record Type Identifier	Use one of the spare values Domain supported by the UE Set to “IMSI (GSM-MAP)” for UEs supporting GSM-MAP core network type or “IMSI (DS-41)” for UEs supporting ANSI-41 core network type.

RRC -STATUS (Step 3)

Information Element	Value/remark
Protocol error information	Checked to see if set to “Information element value not comprehended”

PAGING -TYPE 2 (Step 4)

Information Element	Values/Remarks
Paging cause CN domain identity Paging Record Type Identifier	Terminating Call supported by the UE Domain supported by the UE Set to “IMSI (GSM-MAP)” for UEs supporting GSM-MAP core network type or “IMSI (DS-41)” for UEs supporting ANSI-41 core network type.

UPLINK DIRECT TRANSFER (Step 5)

Only the message type IE for this message is checked.

8.1.1.7.5 Test requirement

After step 1 the UE shall not respond to the paging message on the DCCH.

After step 2 the UE shall respond to the paging message by transmitting RRC STATUS on the DCCH, stating the protocol error as “Information element value not comprehended”.

After step 4 the UE shall respond to the paging message by transmitting an UPLINK DIRECT TRANSFER message on the uplink DCCH.

8.1.1.8 Paging for Connection in connected mode (CELL_FACH)

8.1.1.8.1 Definition

8.1.1.8.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 2 message from the network to selected UEs in CELL_FACH state using the dedicated control channel (DCCH). The UE shall listen to it and responds to this message accordingly.

Reference

3GPP TS 25.331 clause 8.1.911

8.1.1.8.3 Test purpose

To confirm that the UE responds to a PAGING TYPE 2 message, which includes a matching value for IE ”Paging Record Type Identifier”.

8.1.1.8.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: CELL_FACH state (state 6-11) as specified in clause 7.4 of TS 34.108 –.

Test Procedure

The SS transmits a PAGING TYPE 2 message, which includes an unmatched Paging Record Type Identifier in CELL_FACH state. The UE shall not respond to this message. The SS transmits a PAGING TYPE 2 message, which includes a matched Paging Record Type Identifier. Then the UE shall respond by transmitting an upper layer message to answer this page.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PAGING TYPE2	The SS transmits the message includes an unmatched identifier, then the UE does not respond.
2	←		PAGING TYPE2	The SS transmits the message includes a matched identifier.
3	→		UPLINK DIRECT TRANSFER	The UE responds by sending an upper layer message.

Specific Message Content

PAGING -TYPE 2 (Step 1)

Use the same message content as in step 1 from 8.1.1.7.4

PAGING -TYPE 2 (Step 2)

Use the same message content as in step 4 from 8.1.1.7.4

8.1.1.8.5 Test requirement

After step 1 the UE shall not respond.

After step 2 the UE shall respond to the second PAGING TYPE 2 message by transmitting an UPLINK DIRECT TRANSFER message on the uplink DCCH.

8.1.2 RRC Connection Establishment

8.1.2.1 RRC Connection Establishment in CELL_DCH state: Success

8.1.2.1.1 ——————Definition

8.1.2.1.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE "Initial UE identity" and is to be transmitted on the uplink CCCH.
2. After the UE receives an RRC CONNECTION SETUP message which includes the same value of the IE "Initial UE identity", radio resource parameters(i.e. Signalling link type and multiplexing info) and U-RNTI ~~The~~, UE then configures the layer 2 and layer 1 processing so as to support the DCCH according to the radio resource parameters specified. The procedure successfully ends when the network receives an RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.1.3 Test purpose

To confirm that the UE leaves the Idle Mode and correctly establishes a signalling link on the DCCH.

8.1.2.1.4 Method of test

Initial Condition

System Simulator-: -1 cell

UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by attempting to make an outgoing -call-. After SS receives this message, it assigns the necessary radio resources and U-RNTI to be used by the UE. -SS- and then transmits an RRC CONNECTION SETUP message containing an IE "Initial UE Identity" that does not match the IE "Initial UE Identity" in the most recent RRC CONNECTION REQUEST message sent by the UE. UE receives the RRC CONNECTION SETUP message ~~to the UE~~ within timer T300 but discards it due to the IE "Initial UE Identity" mismatch. UE shall wait for timer T300 to time out before re-transmitting a RRC CONNECTION REQUEST message to the SS. SS again assigns the necessary radio resources and U-RNTI. SS then follows by transmitting a RRC CONNECTION SETUP message containing an IE "Initial UE Identity" that matches the IE "Initial UE Identity" in the most recent RRC CONNECTION REQUEST sent by the UE. SS then waits for the UE to transmit an RRC CONNECTION SETUP COMPLETE message on the DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		RRC CONNECTION REQUEST	By outgoing call operation
2	←		RRC CONNECTION SETUP	This message is not addressed to the UE.
3	→		RRC CONNECTION REQUEST	UE shall re-transmit the request message again after a time out of T300 from step 1~~receiving a setup message not addressed to itself.~~
4	←		RRC CONNECTION SETUP	
5				The UE configures the layer 2 and layer 1-.
6	→		RRC CONNECTION SETUP COMPLETE	

Specific Message Content

RRC CONNECTION SETUP (Step 2)-:

Information Element	Value/remark
Initial UE Identity CHOICE UE id type IMSI	 IMSI Set to an arbitrary octet string of length 7 which different from the IMSI -value stored in the USIM~~I~~ card.

8.1.2.1.5 Test requirement

After step 2 the UE shall re-transmit the RRC CONNECTION REQUEST message again in order to continue the RRC connection establishment procedure.

After step 6 the UE shall establish an RRC connection and continue the procedure of the outgoing call on the DCCH.

8.1.2.2 RRC Connection Establishment: Success after T300 timeout

8.1.2.2.1 Definition

8.1.2.2.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode. The UE shall transmit an RRC CONNECTION REQUEST message which includes the IE "Initial UE identity". This message shall be sent on the uplink CCCH.

2. In the case of a failure to establish the RRC connection at the expiry of timer T300, the UE retries to establish the RRC connection until V300 is greater than N300.

When the UE receives a RRC CONNECTION SETUP message, which contains a protocol error and causing the internal variable PROTOCOL_ERROR_REJECT set to TRUE, it shall perform the appropriate error handling procedure.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.2.3 Test purpose

To confirm that the UE retries to establish the RRC connection until V300 is greater than N300 after the expiry of timer T300 when the SS transmits no response for an RRC CONNECTION REQUEST message.

8.1.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108

Test Procedure

Before the test starts, an internal counter K in SS is initialized to a value = 1. Following this, the UE shall transmit an RRC CONNECTION REQUEST message to the SS on the uplink CCCH, after the operator attempts to make an outgoing call. SS ignores this message, increments K every time such a message is received and waits for T300 timer to expire. This cycle is repeated until K reaches N300. When K is equal to N300, the SS transmits the RRC CONNECTION SETUP message specified in step 5 to the UE and wait until T300 expires. The UE shall send another RRC CONNECTION REQUEST message on the uplink CCCH. SS verifies that the UE does not access the radio resource allocated in step 5. After confirming this restriction is observed, SS replies with a valid RRC CONNECTION SETUP message. The UE shall then acknowledge the establishment of RRC connection by sending the RRC CONNECTION SETUP COMPLETE ~~messsage~~message on uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS initializes counter K to 1-. Operator is asked to make an outgoing call and SS starts to wait for RRC CONNECTION REQUEST on uplink CCCH.
2	→		RRC CONNECTION REQUEST	
3				SS checks to see if K is equal to N300. If so, goes to step 5. Else, continues to execute step 4.
4				SS increments K. The next step is step 2.
5	←		RRC CONNECTION SETUP	The message contains a protocol error, see specific message content. SS waits for T300 to expire again.
6	→		RRC CONNECTION REQUEST	UE shall not access the radio resource indicated in RRC CONNECTION SETUP message sent in step 5.
7	←		RRC CONNECTION SETUP	This is a legal message. See the clause 6.1 in TS 34.108 on default message content for RRC.
8				The UE configures the layer 2.
9	→		RRC CONNECTION SETUP COMPLETE	

Specific Message Contents

RRC CONNECTION SETUP (Step 5)

Information Element	Value/remark
Uplink Radio Resource CHOICE *channel requirement*	Neither PRACH Info (for RACH) nor Uplink DPCH info is chosen. One of the spare value is used.

8.1.2.2.5 Test requirement

After step 5 the UE shall re-send another RRC CONNECTION REQUEST message and not access any radio resources specified in RRC CONNECTION SETUP message sent in step 5.

After step 8 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message and establish an RRC connection on the DCCH logical channel.

8.1.2.3 RRC Connection Establishment: Failure (V300 is greater than N300)

8.1.2.3.1 Definition

8.1.2.3.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE "Initial UE identity" on the uplink CCCH.

2. In the case of a failure to establish the RRC connection after (N300+1) attempts, the UE goes back to idle mode.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.3.3 Test purpose

To confirm that the UE stops retrying to establish the RRC connection if V300 is greater than N300 and goes back to idle mode.

8.1.2.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108

Test Procedure

Before the test starts, SS initializes an internal counter K to 1. The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by an outgoing call operation. SS shall not respond to any RRC CONNECTION REQUEST message, instead the counter K is increased by 1 every time such a message is received. To arrive at the verdict, the SS checks that a total of (N300+1) such messages are received.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS initializes counter K to 1and then prompts the operator to make an outgoing call.
2		→	RRC CONNECTION REQUEST	
3				SS increments K by 1.
4				If K is greater than N300, goes to step 5 else proceed to step 2.
5				SS monitor the uplink CCCH for a time period enough for UE to goes back to normal service. The exact amount of time to wait shall be derived from TS related to cell selection. If any uplink transmission is detected, the test fails.

Specific Message Contents

None

8.1.2.3.5 Test requirement

?After step 5, counter K shall be equals to (N300+1) and there shall be no uplink transmission in the monitoring period specified in step 5.

8.1.2.4 RRC Connection Establishment: Reject (“wait time” is not equal to 0)

8.1.2.4.1 ——————Definition

8.1.2.4.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE "Initial UE identity" and is to be sent on the uplink CCCH.

2. After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and neither IE "frequency info" nor IE "system info" is present, the UE shall wait for a period specified in the IE "wait time". Thereafter re-transmit an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again. However, either IE "frequency info" or IE "system info" is available in the message, the UE shall attempt to perform cell reselection using these information.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.4.3 Test purpose

To confirm that the UE retries to establish the RRC connection after the "wait time" if the UE receives an RRC CONNECTION REJECT message which includes the IE "wait time" not set to 0.

To confirm that the UE perform a cell reselection when receiving an RRC CONNECTION REJECT message, containing relevant frequency information of the target cell to be re-selected.

8.1.2.4.4 Method of test

Initial Condition

System Simulator: 2 cells – both cell 1 and cell 2 are active and suitable for camping, but cell 1 is transmitted using a larger power. Cell 1 and cell 2 are being transmitted from different 2 UARFCNs.

UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by an outgoing call operation in cell 1. SS rejects the first request by transmitting an RRC CONNECTION REJECT message which indicates a non-zero wait time. In this message, frequency information for cell 2 is available. SS then waits for RRC CONNECTION REQUEST message on the uplink CCCH of cell 2. SS will also monitor the uplink of cell 1 simultaneously to ensure that all transmission activities from cell 1 have ceased. When the UE has successfully camp onto cell 2, it shall send an RRC CONNECTION REQUEST with the same establishment cause as its previous attempt in cell 1. SS responds with an RRC CONNECTION REJECT message, indicating a non-zero "wait time" and omitting the IE "Redirection Info". The UE shall observe the wait time period indicated. After the wait time has elapsed, the UE shall re-transmit RRC CONNECTION REEQUEST again. Finally, SS transmits an RRC CONNECTION SETUP message to establish an RRC connection with the UE, and the UE replies with an RRC CONNECTION SETUP COMPLETE message and enters CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		→	RRC CONNECTION REQUEST	SS prompts the operator to make an outgoing call in cell 1.
2		←	RRC CONNECTION REJECT	This message shall includes the IE "wait time" set to 15 seconds and IE "frequency info" set to the UARFCN of cell 2.
3				SS waits for a period of time sufficient for UE to reselect to cell 2. At the same time, it ~~monitor~~monitors the uplink of cell 1 to make sure that all transmissions have ceased.
4		→	RRC CONNECTION REQUEST	UE shall attempt to re-start an RRC connection establishment procedure in cell 2. The establishment cause shall ~~remained~~remain unchanged.
5		←	RRC CONNECTION REJECT	This message shall includes the IE "wait time" set to 15 seconds, but with IE "Redirection Info" absent.
6		→	RRC CONNECTION REQUEST	SS waits until the duration specified in IE "wait time" has elapsed and then listens to the uplink CCCH for a second RRC CONNECTION REQUEST message.
7		←	RRC CONNECTION SETUP	SS sends the message to UE, to setup an RRC connection with the UE.
8				The UE shall configure the layer 2 and layer 1 in order to access the uplink and downlink DCCH assigned~~.~~.
9		→	RRC CONNECTION SETUP COMPLETE	

Specific Message Contents

RRC CONNECTION REQUEST (Step 1)

Information Element	Value/remark
Initial UE Identity	Must be equal to U-RNTI assigned ~~preeviously~~previously
Initial UE Capability	Must be compatible with UE settings in TS 25.926
Establishment Cause	Must be "Originating Call"

RRC CONNECTION REJECT (Step 2)

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
Frequency Info	
UARFCN uplink (Nu)	Set to a different UARFCN from uplink carrier of cell 1
UARFCN uplink (Nd)	Not present – assuming a duplex distance of 190MHz.

RRC CONNECTION REQUEST (Step 4 and step 6)

Same requirement as in step 1.

RRC CONNECTION REJECT (Step 5)

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	Not present

8.1.2.4.5 Test requirement

After step 3 the UE shall have successfully re-selected to cell 2, using information transmitted in IE "frequency info" of RRC CONNECTION REJECT message. UE shall trigger the start of RRC connection establishment by transmitting RRC CONNECTION REQUEST. The establishment cause shall be similar to the message sent in step 1.

After step 5 the UE shall observe the period specified in IE "wait time" of an RRC CONNECTION REJECT message and not transmit an RRC CONNECTION REQUEST message in this period.

After step7 the UE shall ~~transmsit~~transmit an RRC CONNECTION SETUP COMPLETE message to SS on uplink DCCH and then establish an RRC connection.

8.1.2.5 RRC Connection Establishment: Reject ("wait time" is not equal to 0 and V300 is greater than N300)

8.1.2.5.1 ~~———————~~Definition

8.1.2.5.2 Conformance requirement

The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message~~.~~. This message shall include the IE "Initial UE identity" and is to be sent on the uplink CCCH.

2. After the UE receives an RRC CONNECTION REJECT message which includes IE "wait time" not set to 0, and neither IE "frequency info" nor IE "system info" is present, the UE shall wait for a period specified in the IE "wait time". Thereafter it re-transmits an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again. In the case of a failure to establish the RRC connection after (N300+1) attempts, the UE goes back to idle mode.

Reference

3GPP TS 25.331 ~~-~~clause 8.1.3

8.1.2.5.3 Test purpose

To confirm that the UE retries to establish the RRC connection after the "wait time" if the UE receives an RRC CONNECTION REJECT message which specifies a non-zero IE "wait time".

To confirm that the UE stops retrying to establish the RRC connection if V300 is greater than N300 and goes back to idle mode.

8.1.2.5.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108

Test Procedure

Before the test starts, SS initializes an internal counter K to 0. The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH, triggered by an outgoing data call operation. SS rejects all requests by transmitting an RRC CONNECTION REJECT message which indicates a non-zero wait time and the counter K is increased by 1 every time such a message is received. To arrive at the verdict, the SS checks that a total of (N300+1) such messages are received.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS initializes counter K to 0 and then prompts the operator to make an outgoing data call.
2	→		RRC CONNECTION REQUEST	Shall be sent on CCCH and contain the correct establishment cause.
3	←		RRC CONNECTION REJECT	This message includes the IE "wait time" set to 15 seconds.
4				SS increments K by 1.
5				If K is greater than N300, goes to step 6. Else SS waits for 15 sec before proceeding to step 2.
6				SS monitor the uplink CCCH for a time period enough for UE to goes back to normal service. The exact amount of time to wait shall be derived from TS related to cell selection. If any uplink transmission is detected, the test fails.

Specific Message Contents

RRC CONNECTION REQUEST (Step 2)

Information Element	Value/remark
Initial UE Identity	Must be equal to U-RNTI assigned ~~preeviously~~previously
Initial UE Capability	Must be compatible with UE settings in TR25.926
Establishment Cause	Must be "Originating CS Data Call" or "Originating PS Data Call"

RRC CONNECTION REJECT (Step 3)

Information Element	Value/remark
Wait time	15 seconds

8.1.2.5.5 Test requirement

After step 6, counter K shall be equals to (N300+1) and there shall be no uplink transmission in the monitoring period specified in step 6.

8.1.2.6 RRC Connection Establishment: Reject ("wait time" is set to 0)

8.1.2.6.1 ——————Definition

8.1.2.6.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message on the uplink CCCH.
2. In the case of a failure to establish the RRC connection by the reception of a RRC CONNECTION REJECT message which contains IE "wait time" equals to 0, the UE shall go back to idle mode immediately.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.6.3 Test purpose

To confirm that the UE goes back to idle mode, if the SS transmits an RRC CONNECTION REJECT message which includes IE "wait time" set to 0. To confirm that the UE ignores an RRC CONNECT REJECT message not addressed to it. To confirm that the UE is capable of handling an erroneous RRC CONNECTION REJECT message correctly.

8.1.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by making an outgoing call. After the SS receives this message, it transmits an RRC CONNECTION REJECT message which is not addressed to the UE. The UE shall disregard this message and proceed to re-transmit RRC CONNECTION REQUES message upon T300 timer expiry. SS answers the second RRC CONNECTION REQUEST message by transmitting an RRC CONNECTION REJECT message with IE "wait time" set to 15 seconds, but without the mandatory IE "rejection cause". The UE shall continue to send the third RRC CONNECTION REQUEST message after a 15 second lapse. Next, the SS sends a legal RRC CONNECTION REJECT message which is expected to cause the UE to move to idle mode spontaneously. To confirm that finally the UE goes back to idle mode immediately after receiving the reject message, SS shall monitor the uplink CCCH for the next 60 second and verify that there is no further transmission in the uplink direction.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		RRC CONNECTION REQUEST	Test operator is prompted to make an out-going call,
2	←		RRC CONNECTION REJECT	IE "Initial UE identity" contains an identity different from any of the UE identities available.
3	→		RRC CONNECTION REQUEST	UE shall continue to send this message after T300 time-out.
4	←		RRC CONNECTION REJECT	IE "Reject Cause" is omitted, IE "wait time" is set to 15 seconds (maximum).
5	→		RRC CONNECTION REQUEST	UE shall continue to send this message after ~~T300 time-out, but before~~ the expiry of "wait time" IE indicated in RRC CONNECTION REJECT message in step 4.
6	←		RRC CONNECTION REJECT	IE "wait time" is set to 0.
7				The UE goes back to idle mode.~~.~~

Specific Message Contents

RRC CONNECTION REQUEST (Step 1)

Information Element	Value/remark
Initial UE Identity	Checked to see if it is set to IMSI stored in the test USIM card.
Initial UE Capability	Checked to see if it is compatible to ICS/IXIT statements.
Establishment Cause	Checked to see if set to one of the supported originating call types
Protocol Error Indicator	Checked to see if set to "FALSE"
Measured Results on RACH	Checked to see if it is absent

RRC CONNECTION REJECT (Step 2)

Information Element	Value/remark
Initial UE Identity IMSI	Set to an arbitrary octet string of length 7 bytes, which is different from the IMSI stored in USIM.
Wait time	15 seconds
Redirection Info	Not present

RRC CONNECTION REQUEST (Step 3)

Information Element	Value/remark
Initial UE Identity	Checked to see if it is set to IMSI stored in the test USIM card.
Initial UE Capability	Checked to see if it is compatible to ICS/IXIT statements.
Establishment Cause	Checked to see if set to one of the supported originating call types
Protocol Error Indicator	Checked to see if set to "TRUE"
Measured Results on RACH	Checked to see if it is absent

RRC CONNECTION REJECT (Step 4)

Information Element	Value/remark
Initial UE Identity IMSI	Set to the identical octet string as the IMSI stored in the USIM card.
Reject Cause	Not Present
Wait time	15 seconds (Maximum)
Redirection Info	Not Present

RRC CONNECTION REQUEST (Step 5)

The contents of this message must be identical to those specified for the message in step 3.

RRC CONNECTION REJECT (Step 6)

Information Element	Value/remark
Initial UE Identity	
IMSI	Set to the identical octet string as the IMSI stored in the USIM card.
Reject Cause	Congestion
Wait time	0 second
Redirection Info	Not present

Note: T300 is set to 5 seconds and N300 is arbitrarily selected from 4 to 8 in SYSTEM INFORMATION BLOCK TYPE 1 message on BCCH.

8.1.2.6.5 Test requirement

After step 2 ~~and step 4~~ the UE shall ~~continue to re-~~transmit an RRC CONNECTION REQUEST message on uplink CCCH~~, at an interval of 5 seconds (T300)~~.

After step 4 the UE shall re-transmit an RRC CONNECTION REQUEST message on the uplink CCCH 15 seconds after the transmission of the second downlink RRC CONNECTION REJECT message. In this message, the "protocol error indicator" IE shall be set to "TRUE".

After step 6 the UE shall stop sending an RRC CONNECTION REQUEST message, go back to idle mode immediately and not transmit in the uplink direction again.

8.1.2.7 RRC Connection Establishment in CELL_FACH state: Success

8.1.2.7.1 ~~———————~~Definition

8.1.2.7.2 Conformance requirement

During the RRC connection establishment, the UTRAN might assign common physical resource to the UE using an RRC CONNECTION SETUP message. When no information about the physical channels accessible ~~are~~ is available from the message, the UE shall utilize the PRACH and S-CCPCH information transmitted on the BCCH and then enter the CELL_FACH. Subsequently, the UE shall establish the required signalling links with the UTRAN using common physical resources.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.7.3 Test Purpose

To confirm that the UE is able to enter CELL_FACH state and setup signalling links using common physical channels.

8.1.2.7.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE: Idle state (state 2 or state 3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by attempting to make an outgoing call. After the SS receives this message, it assigns the necessary radio resources and U-RNTI to be used by the UE, and then transmits an RRC CONNECTION SETUP message to the UE within timer T300. SS then waits for the UE to transmit an RRC CONNECTION SETUP COMPLETE message on the DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		→	RRC CONNECTION REQUEST	Test operator is requested to make an outgoing call. The UE shall transmit this message, indicating the correct establishment cause.
2		←	RRC CONNECTION SETUP	SS omits both IE "Uplink DPCH Info" and IE "Downlink DPCH Info" from the message.
3				The UE shall configure the layer 2 and layer 1.
4		→	RRC CONNECTION SETUP COMPLETE	UE shall send this message on the DCCH, carried by the assigned PRACH resources.

Specific Message Content

RRC CONNECTION REQUEST

Information Element	Value/remark
Establishment Cause	Originating PS Data Call

RRC CONNECTION SETUP

For this message, the contents of the message to be used are basically identical to the message sub-type entitled "RRC CONNECTION SETUP message (Transition to CELL_FACH)" found in the default message content part. The following exceptions are applicable in this test:

Information Element	Value/remark
Uplink DPCH Info	Not Present
Downlink information common for all radio links	Not Present
Downlink information per radio link list	Not Present

RRC CONNECTION SETUP COMPLETE

Information Element	Value/remark
UE Radio Access Capability	Checked to see if compatible with the stated capability in PIXIT/PICS statements.

8.1.2.7.5 Test requirements

After step 3 the UE shall establish the RRC connection, and transmit RRC CONNECTION SETUP COMPLETE message on the DCCH using PRACH physical resource specified in system information block messages.

8.1.2.8 RRC Connection Establishment: Invalid system information message reception

8.1.2.8.1 Definition

8.1.2.8.2 Conformance requirement

The UE shall ignore the message and shall not select the cell, if the associated a SYSTEM INFORMATION message on the BCCH which includes the unknown value in the mandatory information element which criticality is set to "reject" in the master information block is broadcasting.

Reference

3GPP TS 25.331 clause 8.1.1 clause 16

8.1.2.8.3 Test purpose

To confirm that the UE does not select the cell if the transmitted SYSTEM INFORMATION message on the BCCH which includes the unknown value in the mandatory information element whose criticality is set to "reject" value in the master information block is broadcasting

8.1.2.8.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: Power off (state 1) as specified in clause 7.4 of TS 34.108

Test Procedure

The SS broadcasts the SYSEM INFORMATION message on the BCCH which includes the PLMN Type information element having "spare value" in the master information block. When the UE is supplied the power, it finds that the SYSTEM INFORMATION message on the BCCH includes the unknown value in the mandatory information element and the UE shall ignore this message. When an outgoing call is attempted, the test operator shall be informed that the UE is in a "No Service" state. The UE shall not transmit an RRC CONNECTION REQUEST message on the uplink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION	The SS broadcasts the SYSTEM INFORMATION message on the BCCH which includes an unknown value in the mandatory information element whose criticality is set to "reject" in the master information block.
2				The UE is supplied the power.
3				SS waits for 1 minute and then asks the test operator to attempt to make an outgoing call.
4				SS checks that no uplink transmission on CCCH is detected.

Specific Message Contents

SYSTEM INFORMATION(master information block)

The contents of a SYSTEM INFORMATION message in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests, with the following exceptions:

Information Element	Value/remark
PLMN Type	spare value

8.1.2.8.5 Test requirement

After step 3 the UE shall not transmit an RRC CONNECTION REQUEST message on the uplink CCCH.

8.1.3 RRC Connection Release

8.1.3.1 RRC Connection Release in CELL_DCH state: Success

8.1.3.1.1 Definition

8.1.3.1.2 Conformance requirement

In case of an RRC connection release from CELL_DCH state, the UTRAN transmits an RRC CONNECTION RELEASE message to the UE using unacknowledged mode on the DCCH. The UE then responds by transmitting an RRC CONNECTION RELEASE COMPLETE message using unacknowledged mode to UTRAN for N308 times, each time at the expiry of T308 timer. Then the UE leaves the RRC connected mode and initiates release of the layer 2 signalling link. The RRC Connection Release procedure ends when all UE dedicated resources (such as radio resources and radio access bearers) associated with the RRC connection are released and the UE returns to idle mode.

Reference

3GPP TS 25.331 clause 8.1.4

8.1.3.1.3 Test purpose

To confirm that the UE releases the L2 signalling link and dedicated resources and goes back to the idle state after it receives an RRC CONNECTION RELEASE message from the SS and transmits an RRC CONNECTON RELEASE COMPLETE message to the SS for N308 times at the interval specified by the value of T308 timer.

8.1.3.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH state (state 6-1 or state 6-3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to the CELL_DCH state by prompting the operator to initiate an outgoing call. After the DCCH is established, SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the connection. SS then waits for the UE to transmit an RRC CONNECTION RELEASE COMPLETE message using unacknowledged mode. SS checks to see if P such messages has been received at each expiry of T308 timer. P is equal to the value of IE "Number of RRC Message Transmissions" in an RRC CONNECTION RELEASE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state after a successful RRC connection establishment by virtue of the operator making an outgoing call.
2	←		RRC CONNECTION RELEASE	SS disconnect- the connection established. The value in IE "Number of RRC Message Transmissions" is arbitrarily chosen from 4 to 8 and denoted by P.
3	→		RRC CONNECTION RELEASE COMPLETE	SS waits for the arrival of N308 such message at the expiry of each T308 timer, using unacknowledged mode.
4				The UE releases L2 signalling link and dedicated resources. ~~then~~Then the UE goes to idle mode.

Specific Message Content

RRC CONNECTION RELEASE (Step 2)

Information Element	Value/remark
Number of RRC Message Transmission	Arbitrarily chosen between 4 and 8

8.1.3.1.5 Test requirement

After step 2 the UE shall start to transmit P times RRC CONNECTION RELEASE COMPLETE messages at the expiry of each T308 timer.

After step 3 the UE shall initiate the release L2 signalling link and dedicated resources, then it shall go to idle mode.

8.1.3.2 RRC Connection Release in CELL_FACH state: Success

8.1.3.2.1 ——————Definition

8.1.3.2.2 Conformance requirement

In case of RRC connection release from CELL_FACH state, the RRC layer entity in the network may issues an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. Upon the reception of this message, the UE-RRC transmits an RRC RELEASE COMPLETE message using acknowledged mode to UTRAN on the DCCH and goes back to idle mode after it receives a response from the UTRAN-RLC. If an invalid RRC CONNECTION RELEASE is received, the UE shall perform the appropriate error-handling mechanism and report the error to the UTRAN.

Reference

3GPP TS 25.331 clause 8.1.4

8.1.3.2.3 Test purpose

To confirm that the UE releases the L2 signalling link and resources and goes back to the idle state after it receives an RRC CONNECTION RELEASE message from the SS. It shall transmit an RRC CONNECTON RELEASE COMPLETE message using acknowledged mode to the SS (e.g. the UE-RLC confirms the transmission of the RRC CONNECTION RELEASE COMPLETE message.). If the UE receives an invalid release message, it shall ignore the message and report this event to the SS.

8.1.3.2.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to an initial state of CELL_FACH. After the successful establishment of the RRC connection, the SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the radio link. However, the message contains an error in one of the mandatory IE. As a result, the UE shall not release the RRC connection and reply with RRC STATUS message indicating the error type. Then the SS transmits a second RRC CONNECTION RELEASE message with valid content. When the UE receives this message the UE transmits an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS. Finally, SS checks that the UE performs proper layer 2 release.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_FACH state.
2	←		RRC CONNECTION RELEASE	The message contains an error in one of the conditional IE.
3	→		RRC STATUS	IE "Protocol Error Information" shall be set to "Message Extension Not Comprehended"
4	←		RRC CONNECTION RELEASE	SS sends this message using unacknowledged mode RLC operations on the uplink DCCH.
5	→		RRC CONNECTION RELEASE COMPLETE	The UE transmits this message using acknowledged mode.
6				The UE releases L2 ~~signaling~~signalling link and radio resources. ~~then~~Then the UE goes to idle mode.

Specific Message Contents

RRC CONNECTION RELEASE (Step 2)

Information Element	Value/remark
Number of RRC Message Transmissions	Arbitrarily selected from 1 to 8

RRC STATUS

Information Element	Value/remark
Protocol Error Information	Checked to see if set to "Message Extension Not Comprehended"

RRC CONNECTION RELEASE (Step 4)

Information Element	Value/remark
Number of RRC Message Transmissions	Not Present

8.1.3.2.5 Test requirement

After step 2 the UE shall maintain the RRC connection and respond to the RRC CONNECTION RELEASE message by sending RRC STATUS message. This message shall specify the cause "Message Extension Not Comprehended" in the IE "Protocol Error Information".

After step 4 the UE shall transmit an RRC CONNECTION RELEASE COMPLETE message~~s~~ using acknowledged mode then it shall receive a response for this ~~massage~~ message from the SS-RLC.

After step 5 the UE shall release its L2 signalling link and radio resources, then it shall go back to idle mode.

8.1.3.3 RRC Connection Release in CELL_FACH state: Failure

8.1.3.3.1 Definition

8.1.3.3.2 Conformance requirement

In case of RRC connection release from CELL_FACH state, the RRC layer entity in the network issues an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. When the UE does not succeed to transmit the RRC CONNECTION RELEASE COMPLETE message using acknowledged mode, it shall release all its radio resources, enter idle mode and the procedure ends on the UE side.

Reference

3GPP TS 25.331 clause 8.1.4

8.1.3.3.3 Test purpose

To confirm that the UE releases all its radio resources and enters idle mode when the UE does not succeed in transmitting the RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS (i.e. the UE-RLC cannot receive acknowledgement for the transmission of the RRC CONNECTION RELEASE COMPLETE message from SS.).

8.1.3.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108

Test Procedure

At the start of the test, the UE is brought to CELL_FACH state. When the RRC connection has been established, the SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the radio link. When the UE receives this message the UE transmits an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS. The SS ignores the message and does not transmit a STATUS PDU of RLC for this message. SS checks to see that UE continues to release all its radio resources and then enters idle mode.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought into CELL_FACH state by asking the operator to perform an outgoing call attempt. Clause
2	←		RRC CONNECTION RELEASE	SS ask to disconnect the radio link
3	→		RRC CONNECTION RELEASE COMPLETE	The UE transmits this message using acknowledged mode. The SS ignores this message and shall not transmit a STATUS PDU of RLC for this message.
4				SS checks to make sure that UE releases its all radio resources and enter idle mode.

Specific Message Contents

None

8.1.3.3.5 Test requirement

After step 3 the UE shall release its L2 signalling link and radio resources then it shall go to idle mode.

8.1.4 RRC Connection Re-Establishment

8.1.4.1 RRC Connection Re-Establishment : Success

8.1.4.1.1 Definition

8.1.4.1.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After a successful cell re-selection and transiting to CELL_FACH state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to request for the re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RE-ESTABLISHMENT message on the downlink DCCH, which includes the new configuration information. Then the UE transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.1.3 Test purpose

To confirm that the UE tries to find a new cell by transiting to CELL_FACH state, after detecting that a radio link failure has occurred. The UE shall then attempt to establish a new RRC connection using an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI". Finally when the SS allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message, the UE shall establish a new RRC connection link.

8.1.4.1.4 Method of test

Initial Condition

System Simulator: 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is brought to CELL_DCH state in a cell 1 after a successful outgoing call attempt. After the call has been established, the SS stops transmitting and receiving in a cell No.1 and begins to broadcast the BCCH in cell 2, the UE should detect a radio link failure in cell 1 and attempts to re-select to cell 2. It should then enter CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to SS. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new configuration information. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
2	←		BCCH	The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
3				The SS stops transmitting and receiving in a cell .1.
4	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE should find a new cell 2 and then transmits this message which includes the IE "U-RNTI" assigned previously.
5	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
6	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

Cell 1: SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	8 seconds
T313	15 seconds
T314	20 seconds
T315	30 seconds
N313	50

8.1.4.1.5 Test requirement

After step 3, the UE shall detect the presence of cell 2 and attempts to re-established the lost RRC connection by transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST in the new cell.

After step 5, the UE shall re-establish an RRC connection and observe the new configuration information specified in an RRC CONNECTION RE-ESTABLISHMENT message.

8.1.4.2 RRC Connection Re-Establishment: Success after T301 timeout (T314 and T315 are running)

8.1.4.2.1 Definition

8.1.4.2.2 Conformance requirement

1. RRC connection re-establishment is needed when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After a cell re-selection to a new cell, the UE transits to CELL_FACH state. In this state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to request the re-establishment of an RRC connection.

2. In the case of a failure to re-establish the RRC connection after the expiry of timer T301, the UE retries to re-establish the RRC connection. Finally when the UTRAN allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message, the UE shall establish a new RRC connection link.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.2.3 Test purpose

To confirm that the UE retries to re-establish a new RRC connection after the expiry of timer T301. This occurs after the UE loses the radio connection and starts to transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

8.1.4.2.4 Method of test

Initial Condition

System Simulator: 2 cells?Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1, after making a successful outgoing call attempt. SS begins to broadcast the BCCH in cell 2 and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure and the presence of cell 2. It then enters CELL_FACH state and transmits to SS an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH. The SS does not transmit an RRC CONNECTION RE-ESTABLISHMENT to answer to the request. This causes T301 timer to expire and the UE re-transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message again. Then the SS transmits an RRC CONNECTION RE-ESTABLISHMENT message and the UE reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS prompts the operator to make an outgoing call. The UE is in the CELL_DCH state in cell 1.
2	←		BCCH	The SS starts to transmit BCCH in a cell 2, with the SYSTEM INFORMATION message similar (with the exception of cell identity IE) to that transmitted in cell 1.
3				The SS stops transmitting and receiving in cell 1.
4	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds cell 2 and transmits this message which includes the IE "U-RNTI".
5				The SS does not transmit a response.
6	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	After the expiry of T301 the UE re-~~ransmits~~transmits this message.
7	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
8	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.1.4.2.5 Test requirement

~~?~~After step 3, the UE shall detect presence of cell 2 and starts to transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message to setup the radio link again.

After step 5, the UE shall re-transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH after the expiry of timer T301.

After step 7 the UE shall re-establish an RRC connection in cell 2, using the new configuration commanded by the SS.

8.1.4.3 RRC Connection Re-Establishment: Success after reception of invalid message(V301 is not greater than N301)

8.1.4.3.1 ~~————————~~Definition

8.1.4.3.2 Conformance requirement

1. RRC connection re-establishment is needed when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After a cell re-selection to a new cell, the UE transits to CELL_FACH state. In this state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to request the re-establishment of an RRC connection.

2. In the case of a reception of an invalid RRC CONNECTION RE-ESTABLISHMENT message, the UE retries to re-establish the RRC connection until up to a maximum of N301 attempts~~ after the expiry of timer T301~~.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.3.3 Test purpose

To confirm that the UE retries to re-establish a new RRC connection until its internal variable V301 is greater than N301 after the expiry of timer T301 when the UE receives an invalid RRC CONNECTION RE-ESTABLISHMENT message.

8.1.4.3.4 Method of test

Initial Condition

System Simulator: 2 cells?Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

Before the test starts, a an SS internal counter K is initialized to 1. The UE is in the CELL_DCH state in cell 1, after making a successful outgoing call attempt. SS begins to broadcast the BCCH in cell 2 and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure and the presence of cell 2. It then enters CELL_FACH state and transmits to SS an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message to answer to the request which includes the "DRX Indicateor" IE set to "spare value". SS increments internal counter K. After T301 timer expires receiving this invalid message, the UE shall re-transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message again. After the reception of each RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH, SS checks the value of K. If K is less than (N301+1), SS re-sends the same invalid RRC CONNECTION RE-ESTABLISHMENT message again on the downlink DCCH and then increments the internal counter K. When K is equal to N301+1 then the SS transmits an valid RRC CONNECTION RE-ESTABLISHMENT message and the UE shall reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS sets internal counter K to 1 and prompts the operator to make an outgoing call. The UE is in the CELL_DCH state in cell 1.
2	←		BCCH	The SS starts to transmit BCCH in a cell 2, with the SYSTEM INFORMATION message similar (with the exception of cell identity IE) to that transmitted in cell 1.
3				The SS stops transmitting and receiving in ~~-~~cell 1.
4	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds ~~-~~cell 2 and transmits this message which includes the IE ”U-RNTI”.
~~5~~				~~If K is equal to N301-1 then next step is 7.~~
~~6~~5	←		RRC CONNECTION RE-ESTABLISHMENT	The SS transmits a response which includes the “DRX i~~I~~ndicator” IE set to “spare value” ~~but~~ and increments K ~~and moves to step 4 to wait for another uplink message~~.
6	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE transmits this message which includes the IE ”U-RNTI”.
7				If K is less than or equal to N301 then jump back to Step 5, otherwise proceed with step 8.
~~7~~8	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
~~8~~9	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

~~None~~

RRC CONNECTION RE-ESTABLISHMENT REQUEST (Step 4)

The content of this message shall be identical to the expected default message specified in Annex A.

RRC CONNECTION RE-ESTABLISHMENT (Step 5)

The content of this message is identical to the message sub-type titled “Speech in CS”, specified in Annex A with the following exceptions.

Information Element	Value/remark
"DRX Indicator"	'spare value'

RRC CONNECTION RE-ESTABLISHMENT REQUEST (Step 6)

Information Element	Value/remark
"Protocol error indicator" "Protocol error information"	TRUE 'Information element value not comprehended'

RRC CONNECTION RE-ESTABLISHMENT (Step 8)

The content of this message is identical to the message sub-type titled “Speech in CS”, specified in Annex A.

8.1.4.3.5 Test requirement

After step 3, the UE shall detect presence of cell 2 and starts to transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message to setup the radio link again.

After step 45, the UE shall re-transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH ~~after the expiry of timer T301~~. The total number of RRC CONNECTION RE-ESTABLISHMENT messages received by SS shall be equal to N301~~-~~+1 ~~at an time interval equivalent to T301 timer value~~.

After step ~~7~~ 8 the UE shall re-establish an RRC connection in cell 2, using the new configuration commanded by the SS.

8.1.4.4 RRC Connection Re-Establishment: Failure after reception of invalid message (V301 is greater than N301)

8.1.4.4.1 ~~——————~~Definition

8.1.4.4.2 Conformance requirement

1. RRC connection re-establishment is needed when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After cell re-selection and then transiting to CELL_FACH state, the UE RRC transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE ”U-RNTI” on the uplink CCCH to request for re-establishment of an RRC connection.
2. In the case of a reception of an invalid RRC CONNECTION RE-ESTABLISHMENT message, if the UE retries to re-establish the RRC connection until up to a maximum of N301 attempts ~~after the expiry of timer T301~~ and receives the invalid message, the UE goes back to idle mode.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.4.3 Test purpose

To confirm that the UE stops retrying to re-establish the RRC connection if its internal counter V301 is greater than N301 and then goes back to idle state.

8.1.4.4.4 Method of test

Initial Condition

System Simulator: 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in a cell 1. SS begins to broadcast the BCCH in cell 2, and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure and the presence of cell 2. It then enters CELL_FACH state and transmits to SS an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE ”U-RNTI” on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message to answer to the request which includes the “DRX Indicat~~e~~or” IE set to “spare value”, resulting in ~~T301 timer to expire~~a protocol error and the UE shall re-transmit~~s~~ an RRC CONNECTION RE-ESTABLISHMENT REQUEST message again. The SS keeps a count of the number of RRC CONNECTION RE-ESTABLISHMENT REQUEST messages received. The UE shall go~~es~~ back to idle mode after making exactly N301 retransmission attempts.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS set counter K to 1. The UE is in CELL_DCH state in a cell 1 after establishing an outgoing call.
2		←	BCCH	The SS starts to transmit BCCH in a cell 2.
3				The SS stops transmitting and receiving in a cell 1.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds new cell 2 and transmits this message which includes the IE "U-RNTI".
5		←	RRC CONNECTION RE-ESTABLISHMENT	The SS transmits a response which includes the "DRX ~~i~~Indicator" IE set to "spare value" and increments K ~~If K is greater than N301, then the next step is step 6 else go to step 4.~~
6		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE transmits this message which includes the IE "U-RNTI".
7				If K is less than or equal to N301 then jump back to Step 5, otherwise proceed with step 8.
8		←	RRC CONNECTION RE-ESTABLISHMENT	The SS transmits a response which includes the "DRX Indicator" IE set to "spare value"
~~6~~9				SS waits for a period equivalent to time T301 time-out value. The UE shall not transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH during this period. The UE shall go~~es~~ back to idle mode.

Specific Message Contents

~~None~~

RRC CONNECTION RE-ESTABLISHMENT REQUEST (Step 4)

The content of this message shall be identical to the expected default message specified in Annex A.

RRC CONNECTION RE-ESTABLISHMENT (Steps 5 and 8)

Information Element	Value/remark
DRX Indicator	spare value

RRC CONNECTION RE-ESTABLISHMENT REQUEST (Step 6)

Information Element	Value/remark
Protocol error indicator Protocol error information	TRUE Information element value not comprehended

8.1.4.4.5 Test requirement

After step 3 the UE shall find the presence of cell 2, enters CELL_FACH state, and starts to transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message to setup the radio link again.

After step 5 the UE shall transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH ~~after the expiry of timer T301~~ until V301 is greater than N301.

~~If~~After step 8, when V301 is greater than N301 ~~then~~ the UE shall stop sending RRC CONNECTION RE-ESTABLISHMENT REQUEST on the uplink CCCH and then go back to idle mode.

8.1.4.5 RRC Connection Re-Establishment: Failure (Release)

8.1.4.5.1 ~~———————~~Definition

8.1.4.5.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After the completion of cell re-selection and transiting to CELL_FACH state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to request for re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RELEASE message signifying that it is not able to accept the request, so the UE shall transmit an RRC CONNECTION RELEASE COMPLETE message to the UTRAN and goes back to idle mode.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.5.3 Test purpose

To confirm that the UE transmits an RRC CONNECTION RELEASE COMPLETE message and goes back to idle mode after its request to re-establish an RRC connection was rejected by the SS in the new cell. The request to re-establish should be made with an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI".

8.1.4.5.4 Method of test

Initial Condition

System Simulator: 2 cells Cell 1 is active, Cell 2 is inactive

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE starts from CELL_DCH state in cell 1 after making a successful outgoing call. When the SS stops transmitting and receiving in cell 1 and begins to broadcast the BCCH in cell 2, the UE should detect radio link failure and the presence of cell 2. It then enters CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes the IE "U-RNTI" on the uplink CCCH. The SS replies with a RRC CONNECTION RELEASE message on the downlink CCCH using transport mode operation. After the UE receives the RRC CONNECTION RELEASE message, it shall transmit an RRC CONNECTION RELEASE COMPLETE message on the uplink CCCH using RLC-TM. Finally, it goes back to idle mode.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state in cell 1 after completing a successful outgoing call setup.
2	←		BCCH	The SS transmits BCCH in cell 2
3				The SS stops transmitting and receiving in cell 1.
4	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds new cell 2 and- transmits this message which includes the IE "U-RNTI".
5	←		RRC CONNECTION RELEASE	SS rejects the re-establishment request. Sent on downlink CCCH using RLC-TM.
6	→		RRC CONNECTION RELEASE COMPLETE	This message shall be received on the uplink CCCH using RLC-TM. The UE goes back to idle mode after sending this message.

Specific Message Contents

RRC CONNECTION RELEASE: TM

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
- SRNC Identity	Set to the same SRNC identity as previously assigned
- S-RNTI	Set to the same S-RNTI as previously assigned
Integrity check info	Not Checked
Number of RRC Message Transmissions	Not Present
Release cause	Check to see if set to "Re-establishment reject"

RRC CONNECTION RELEASE COMPLETE: TM

Information Element	Semantics description
Message Type	
U-RNTI	
- SRNC Identity	Check the same SRNC identity as previously assigned
- S-RNTI	Check the same S-RNTI as previously assigned
Integrity check info	Not checked.

8.1.4.5.5 Test requirement

After step 3 the UE shall find- the new cell 2 and transmits RRC CONNECTION RE-ESTABLISHMENT REQUEST to ask for re-connection of the radio link.

After step 5 the UE shall not transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message, instead it sends RRC CONNECTION RELEASE COMPLETE message on the uplink CCCH (transparent mode) and goes back to idle mode.

8.1.4.6 RRC Connection Re-Establishment: Failure(T315=0,T314=0)

8.1.4.6.1 Definition

8.1.4.6.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. However the UE must enter to idle mode when T314 is set to 0 in RADIO BEARER SETUP message ~~-~~and also T315 is set to 0 in SYSTEM INFORMATION message.

Reference

3GPP TS 25.331 ~~-~~clause 8.1.5

8.1.4.6.3 Test purpose

To confirm that the UE enters to idle mode, after detecting that a radio link failure has occurred.

8.1.4.6.4 Method of test

Initial Condition

System Simulator~~-~~: ~~-~~1 cell

UE: idle~~CELL_DCH~~ state (state 2 or state 3) as specified in clause 7.4 of TS 34.108

Test Procedure

The MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK TYPE 2 messages on the downlink BCCH are modified with respect to the default settings. The UE is brought to CELL_DCH state, after successfully executing the mobile-originated~~terminated~~ RRC connection establishment procedure (-i.e. P3+P7 or P2+P5) as outlined in clause ~~7.1.2~~7.4 in TS 34.108.~~The MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK TYPE 2 messages on the downlink BCCH is modified with respect to the default setting.~~ Next, SS transmits RADIO BEARER SETUP message on the downlink DCCH in order to establish radio bearers for user-data on DTCH. In this message, the re-establishment timers T314 and T315 are both set to 0. The UE shall respond by sending a RADIO BEARER SETUP COMPLETE message on the uplink DCCH. After the DTCH has been established, the SS stops transmitting and receiving on the radio link except P-CCPCH, the UE should detect a radio link failure~~.~~. Then the UE shall enter to idle mode as both T314 and T315 are set to 0.The SS transmits a PAGING ~~TYPE1~~TYPE 1 message on the PCCH to confirm that the UE is in idle state~~.~~, the UE transmits an RRC CONNECTION REQUEST message on the uplink CCCH. SS replies with an RRC CONNECTION SETUP message and allocates dedicated channels to the UE. Then, the UE shall complete this test by transmitting RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 2	T315=0
2				RRC connection establishment procedure (i.e. P3+P7 or P5+P9) as outlined in clause 7.4 in TS 34.108.
~~2~~3	←		RADIO BEARER SETUP	T314=0
~~3~~4	→		RADIO BEARER SETUP COMPLETE	
~~4~~5				The UE is brought to CELL_DCH state, after making a successful outgoing call.
~~5~~6				The SS stops transmitting and receiving on the radio link except the PCCPCH.
~~6~~7				The UE should enter to idle mode after it detects the radio link failure and SS confirms that the UE does not transmit any RRC CONNECTION RE-ESTABLISHMENT REQUEST messages for 20 seconds.
~~7~~8	←		PAGING ~~TYPE1~~TYPE 1	SS resumes transmission and reception on radio links suspended in step 4. SS pages the UE using a matched identity (test-SIM IMSI).
~~8~~9	→		RRC CONNECTION REQUEST	SS checks the following IEs : "Initial UE identity" – must be the same as test-SIM IMSI. "Establishment Cause – must "Terminating Call" "Protocol Indicator" – must be FALSE
~~9~~10	←		RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish a RRC connection.
~~10~~11	→		RRC CONNECTION SETUP COMPLETE	UE shall acknowledge the completion of RRC connection establishment procedure.

Specific Message Contents

MASTER INFORMATION BLOCK (Step 1)

Use the same message type in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/remark
MIB Value Tag	2

SYSTEM INFORMATION BLOCK TYPE 2 (Step 1)

Use the same message type in clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	3 seconds
T313	15 seconds
T314	20 seconds
T315	0 seconds
N313	50

RADIO BEARER SETUP (Step ~~2~~3)

~~The contents of RADIO BEARER SETUP message in this test case is identical to~~ For circuit-switch only UEs that do not support speech service, use the same message sub-type titled "Non-speech in CS" in Annex A, with the following exceptions:

For circuit-switch only UEs that support speech service, use the same message sub-type titled "Speech in CS" in clause 9 of TS 34.108, with the following exceptions:

For all other types of UEs, use the same message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
RAB information to setup list	
- RAB information for setup	
- RAB info	
- RAB identity	1
- CN Domain Identity	One of the CN domains supported by the UE
- Re-establishment timer	
- CHOICE Timer value	T314
- T314 value	0

PAGING TYPE 1 (Step ~~7~~8)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card

8.1.4.6.5 Test requirement

After step ~~5~~6 the UE shall not transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

After step ~~9~~10 the UE shall have an RRC connection based on dedicated physical channel resources. SS verifies that the UE transmits RRC CONNECTION SETUP COMPLETE on the uplink DCCH.

8.1.4.7 RRC Connection Re-Establishment: Success(T314=0, T315>0 and radio link failure)

8.1.4.7.1 ~~———————~~Definition

8.1.4.7.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. But ~~-~~the UE must release the radio bearer which is associated with ~~-~~T314 if T314 is set to 0. After a successful cell re-selection ~~-~~and a subsequent transition to CELL_FACH state, the UE transmits ~~–~~an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE ~~_~~"U-RNTI" on the uplink CCCH to request for the re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RE-ESTABLISHMENT message on the downlink DCCH, ~~-~~which includes the new

configuration information assigned. Then the UE transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.7.3 Test purpose

To confirm that the UE indicates to the non-access stratum the release of radio access bearer which is associated with T314 and ~~try~~ tries to find a new cell by transiting to CELL_FACH state, after detecting that a radio link failure has occurred. The UE shall then attempt to establish a new RRC connection using an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI". Finally when the UTRAN allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message, the UE shall establish a new RRC connection link.

8.1.4.7.4 Method of test

Initial Condition

System Simulator: 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state (state 6-5 or state 6-7) as specified in clause 7.4 of TS 34.108 in cell 1~~, after executing a generic call set-up procedure for mobile originating CS or PS call (clauses 7.2.3.2 and 7.2.4.2 in TS 34.108). The exact procedure to apply depends on the CN domain(s) supported by the UE.~~

Test Procedure

The UE is brought to CELL_DCH state in a cell 1 after making an successful outgoing call attempt. After the call has been established, SS begins to broadcast the BCCH in cell 2, and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure in cell 1 and indicate to the non-access stratum the release of the radio bearer which is associated with T314. It shall attempt to re-select to cell 2. It should then enter CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to SS. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new configuration. After the UE receives an RRC CONNNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	T314=0
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
4	←		BCCH	The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
5				The SS stops transmitting and receiving in a cell .1.
6				The UE detects the radio link failure which is associated with T314. The UE -indicates to the non-access stratum the release of the affected radio bearer-.
7	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE should find a new cell 2 and then transmits this message which includes the IE "U-RNTI" assigned previously.
8	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
9	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

RADIO BEARER SETUP

~~The contents of RADIO BEARER SETUP message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:~~ For circuit-switched only UEs that do not support speech service, use the same message sub-type titled "Non-speech in CS" in Annex A, with the following exceptions:

For circuit-switched only UEs that support speech service, use the same message sub-type titled "Speech in CS" in clause 9 of TS 34.108, with the following exceptions:

For all other types of UEs, use the same message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
RAB information to setup list - RAB information to setup - RAB info - T314	 0

8.1.4.7.5 Test requirement

After ~~step5~~step 5, the UE shall indicate to the non-access stratum the release of the radio bearer which is associated with T314. SS checks that no further data transmission from the affected radio bearer is received from the UE.

After step 6, the UE shall detect the presence of cell 2 and attempts to re-established the lost RRC connection by transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST in the new cell.

After step 8, the UE shall re-establish an RRC connection.

8.1.4.8 RRC Connection Re-Establishment: Success(T314>0, T315=0 and radio link failure)

8.1.4.8.1 Definition

8.1.4.8.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. But the UE must release the radio bearer which is associated with T315 if T315 is set to 0. After a successful cell re-selection and subsequent transition to CELL_FACH state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to request for the re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RE-ESTABLISHMENT message on the downlink DCCH, which includes the new configuration information assigned. Then the UE transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.8.3 Test purpose

To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T315 and try to find a new cell by transiting to CELL_FACH state, after detecting that a radio link failure has occurred. The UE shall then attempt to establish a new RRC connection using an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI". Finally when the SS allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message, the UE shall establish a new RRC connection link.

8.1.4.8.4 Method of test

Initial Condition

System Simulator: 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state (state 6-5 or state 6-7) as specified in clause 7.4 of TS 34.108 in cell 1~~, after executing a generic call set-up procedure for mobile originating CS or PS call (clauses 7.2.3.2 and 7.2.4.2 in TS 34.108). The exact procedure to apply depends on the CN domain(s) supported by the UE.~~

Test Procedure

The UE is brought to CELL_DCH state in a cell 1 after making an successful outgoing call attempt. After the call has been established, SS begins to broadcast the BCCH in cell 2, and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure in cell 1 and indicate to the non-access stratum the release of the radio bearer which is associated with T315. Then it shall attempt to re-select to cell 2. After that, it should then enter CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to SS. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new configuration information. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	T315=0
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
4	←		BCCH	The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
5				The SS stops transmitting and receiving in a cell .1.
6				The UE detects the radio link failure which is associated with T315. The UE -indicates to the non-access stratum the release of the radio bearer-.
7	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE should find a new cell 2 and then transmits this message which includes the IE "U-RNTI" assigned previously.
8	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information channel.
9	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

RADIO BEARER SETUP

~~The contents of RADIO BEARER SETUP message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:~~For circuit-switched only UEs that do not support speech service, use the same message sub-type titled "Non-speech in CS" in Annex A, with the following exceptions:

For circuit-switched only UEs that support speech service, use the same message sub-type titled "Speech in CS" in clause 9 of TS 34.108, with the following exceptions:

For all other types of UEs, use the same message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
RAB information to setup list - RAB information to setup - RAB info - T314	 0

8.1.4.8.5 Test requirement

After step 5, the UE shall indicate to the non-access stratum the release of the radio bearer which is associated with T314.

After step 6, the UE shall detect the presence of cell 2 and attempts to re-established the lost RRC connection by transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST to the new cell.

After step 8, the UE shall re-establish an RRC connection.

8.1.4.9 RRC Connection Re-Establishment: Failure (T314 is timeout and T315=0)

8.1.4.9.1 Definition

8.1.4.9.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. When the UE could not find a new cell before timer T314 expires, the UE shall enter idle mode.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.9.3 Test purpose

To confirm that the UE enters idle mode, after T314 timeout following a radio link failure.

8.1.4.9.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH state (state 6-5 or state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to CELL_DCH state after a successful RRC connection establishment. After the DTCH has been established using radio bearer establishment procedure, the SS stops transmitting and receiving the DPCCH and DPDCH on the radio link. The UE shall detect a radio link failure. Before T314 is timeout, the UE shall continue to search for a new cell. During this period, SS transmits a PAGING TYPE 1 message on the PCCH to confirm that the UE has not entered the idle state. This is confirmed when no response from UE is received before T314 timeout. After T314 timeout, the UE shall enter idle mode. The SS transmits a PAGING TYPE 1 message on the PCCH again to confirm that the UE is in idle state. The UE shall respond by transmitting an RRC CONNECTION REQUEST message on the uplink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	T314=20 seconds
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is brought to CELL_DCH state, after making a successful outgoing call.
4				The SS stops transmitting and receiving the DPCCH and DPDCH on the radio link.
5	←		PAGING TYPE_1	The SS transmits this message, which includes a matched identity (set to the test-USIM IMSI) before T314 timeout.
6				The SS confirms that the UE does not transmit a response in the next 20 seconds.
7	←		PAGING ~~TYPE1~~TYPE 1	The SS transmits the message, which includes a matched identity (set to the test-USIM IMSI).
8	→		RRC CONNECTION REQUEST	SS checks the following IEs~~.~~: "Initial UE identity" – must be the same as test-SIM IMSI. "Establishment Cause – must "Terminating Call" "Protocol Indicator" – must be FALSE
9	←		RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish a RRC connection.

Specific Message Contents

SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	3 seconds
T313	15 seconds
T314	20 seconds
T315	0 seconds
N313	50

RADIO BEARER SETUP (Step 1)

The contents of RADIO BEARER SETUP message in this test case is identical to message which is defined in clause 9 of TS 34.108 in case of speech and in Annex ~~.~~A in case of the other of ~~the one found in clause of TS 34.108~~ with the following exceptions:

Information Element	Value/remark
RAB information to setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	TM RLC
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1

PAGING TYPE 1 (Step 5 and 7~~)~~

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card

RRC CONNECTION SETUP (Step 9)

Use the default message found in clause 9 of TS 34.108.

8.1.4.9.5 Test requirement

After step 5 the UE shall not transmits an RRC CONNECTION REQUEST message.

After step 9 the UE shall have an RRC connection based on dedicated physical channel resources.

8.1.4.10 RRC Connection Re-Establishment: Failure (T315 is timeout and T314=0)

8.1.4.10.1 Definition

8.1.4.10.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. When the UE could not find a new cell before timer T315 is expires, the UE shall enter idle mode.

Reference

3GPP TS 25.331 ~~-~~clause 8.1.5

8.1.4.10.3 Test purpose

To confirm that the UE enters idle mode, after T315 is expires following a radio link failure.

8.1.4.10.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE: CELL_DCH state (state 6-5 or state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to CELL_DCH state after a successful RRC connection establishment. After the DTCH has been established using the radio bearer establishment procedure, the SS stops transmitting and receiving the DPCCH and DPDCH on the radio link. The UE shall detect a radio link failure. Before T315 is timeout, the UE shall continue to search for a new cell. During this period, SS transmits a PAGING TYPE_1 message on the PCCH to confirm that the UE has not entered the idle state. This is confirmed when no response from the UE is received before T315 timeout. After T315 is timeout, the UE shall enter idle mode. The SS transmits a PAGING TYPE_1 message on the PCCH again to confirm that the UE is in idle state. The UE shall respond by transmitting an RRC CONNECTION REQUEST message on the uplink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	T315=30 seconds
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is brought to CELL_DCH state, after making a successful outgoing ~~-~~call.
4				The SS stops transmitting and receiving the DPCCH and DPDCH on the radio link.
5	←		PAGING TYPE_1	The SS transmits this message, which includes a matched identity (set to the test-USIM IMSI) before T315 ~~itimeout~~timeout.
6				The SS confirms that the UE does not transmit a response in the next 30 seconds.
7	←		PAGING TYPE_1	The SS transmits the message, which includes a matched identity (set to the test-USIM IMSI).
8	→		RRC CONNECTION REQUEST	SS checks the following IEs~~-~~: "Initial UE identity" – must be the same as test-SIM IMSI. "Establishment Cause – must "Terminating Call" "Protocol Indicator" – must be FALSE
9	←		RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish a RRC connection.

Specific Message Contents

SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	3 seconds
T313	15 seconds
T314	0 seconds
T315	30 seconds
N313	50

RADIO BEARER SETUP (Step 1)

The contents of RADIO BEARER SETUP message in this test case is identical to message which is defined in clause 9 of TS 34.108 in case of speech and in Annex ~~-~~A in case of the other of speech~~the one found in clause 9 of TS 34.108~~ with the following exceptions:

Information Element	Value/remark
RAB information to setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
Re-establishment timer	
- T315	30 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	TM RLC
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1

PAGING TYPE 1 (Step 5 and 7)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card

RRC CONNECTION SETUP (Step 9)

Use the default message found in clause 9 of TS 34.108.

8.1.4.10.5 Test requirement

After step 5 the UE shall not transmits an RRC CONNECTION REQUEST message.

After step 9 the UE shall have an RRC connection based on dedicated physical channel resources.

8.1.4.11 RRC Connection Re-Establishment: Success(~~Unrecoverble~~Unrecoverable error in RLC)

8.1.4.11.1 ~~———————~~Definition

8.1.4.11.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. detection of RLC ~~unrecoverble~~unrecoverable error (~~-~~amount of the retransmission of RESET_PDU reaches the value of Max_DAT and receives no ACK~~-~~) in CELL_DCH state. After a successful cell re-selection and transition to CELL_FACH state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE_"U-RNTI" on the uplink CCCH to request for the re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RE-ESTABLISHMENT message on the downlink DCCH, which includes the new configuration information assigned. Then the UE transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.11.3 Test purpose

To confirm that the UE tries to find a new cell by transiting to CELL_FACH state, after detecting that a RLC ~~unrecoverble~~unrecoverable error has occurred. The UE shall then attempt to establish a new RRC connection using an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI". Finally when the SS allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message, the UE shall establish a new RRC connection link.

8.1.4.11.4 Method of test

Initial Condition

System Simulator: 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is brought to CELL_DCH state in a cell 1 after a successful outgoing call attempt. After the call has been established, the SS transmits a PAGING TYPE 2 message on the downlink DCCH. Then the UE transmits an UPLINK DIRECT TRANSFER message on the uplink using AM-RLC for the response and the SS does not transmit a STATUS PDU for the response to AM-RLC PDU. ~~and~~ SS begins to broadcast the BCCH in cell 2. The UE should detect an ~~unrecoverble~~unrecoverable error in cell 1 and attempts to re-select to cell 2. It should then enter CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH to SS. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes "TRUE" in RLC reset indicator(for C-plane) IE and a new TFCS setting according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the RLC and the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
2	←		PAGING TYPE_2	The SS transmits a PAGING TYPE 2 message to the UE on the downlink DCCH in cell 1.
3	→		UPLINK DIRECT TRANSFER	The UE responds to the PAGING TYPE 2 message using AM-RLC but the SS does not transmit a STATUS PDU as an acknowledgement.
4	←		BCCH	The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
5				The UE detects an unrecoverable error in the RLC level.
6	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE should find a new cell 2 and then transmits this message which includes the IE "U-RNTI" assigned previously.
7	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
8	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

Cell 1: SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	8 seconds
T313	15 seconds
T314	30 seconds
T315	30 seconds
N313	16

8.1.4.11.5 Test requirement

After step 5, the UE shall detect the presence of cell 2 and attempt to re-established the RRC connection by transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST in the new cell.

After step 7, the UE shall re-establish an RRC connection.

8.1.5 UE capability

8.1.5.1 UE Capability in CELL_DCH state: Success

8.1.5.1.1 Definition

8.1.5.1.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE or if the UTRAN needs an update of the UE's UMTS capability information or of its inter-system classmark.

When the UE receives a UE CAPABILITY ENQUIRY message, the UE transmits a UE CAPABILITY INFORMATION message on the uplink DCCH. Then the UTRAN transmits a UE CAPABILITY INFORMATION CONFIRM message.

If during the execution of UE capability update procedure, an invalid UE CAPABILITY INFORMATION CONFIRM is received, the UE shall respond with RRC STATUS message and decide whether to re-transmit UE CAPABILITY INFORMATION message by comparing its internal counter against N304.

Reference

3GPP TS 25.331 clause 8.1.6, 8.1.7

8.1.5.1.3 Test purpose

To confirm that the UE transmits a UE CAPABILITY INFORMATION message after it receives a UE CAPABILITY ENQUIRY message from the SS. To confirm that the UE indicate an invalid message reception when ~~errorneous~~erroneous downlink UE CAPABILITY ENQUIRY and UE CAPABILITY INFORMATION CONFIRM messages are received. The UE shall transmit RRC STATUS message with the correct error cause value to SS.

8.1.5.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH state (state 6-1 or state 6-3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. The SS transmits an erroneous UE CAPABILITY ENQUIRY message containing spare value in the IE "Capability update requirement". After receiving such a message, the UE should report the error using RRC STATUS message with the appropriate error cause specified. Then SS transmits a UE CAPABILITY ENQUIRY message which includes the IE "Capability update requirement", the UE receives this message and transmits a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the "Inter-system message" IE. The SS transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE to complete the test. Then SS initiates another UE capability update procedure by transmitting the same UE CAPABILITY ENQUIRY using as in step 4. The UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH. When SS receives this message, it transmit an erroneous UE CAPABILITY INFORMATION CONFIRM message. The content of this message is a ~~concatentation~~concatenation of the message type IE and an arbitrary 32-bits string. The UE shall detect a protocol error and send RRC STATUS message to report this event. After receiving RLC acknowledgement for this message, the UE shall re-transmit UE CAPABILITY INFORMATION message on the uplink DCCH. SS completes this test by an error-free UE CAPABILITY INFORMATION CONFIRM message similar to the message sent in step 6.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state after an outgoing call has been established successfully.
2	←		UE CAPABILITY ENQUIRY	See specific message contents for this message
3	→		RRC STATUS	The IE "Protocol error cause" found in IE "Protocol error information" should be set to "Information element value not comprehended"
4	←		UE CAPABILITY ENQUIRY	Use default message.
5	→		UE CAPABILITY INFORMATION	The message shall include the IE "Inter-system message", which carries the GSM classmark information requested.
6	←		UE CAPABILITY INFORMATION CONFIRM	Use default message.
7	←		UE CAPABILITY ENQUIRY	Same as in step 4.
8	→		UE CAPABILITY INFORMATION	Shall be the same message content as in step 5.
9	←		UE CAPABILITY INFORMATION CONFIRM	This message contains an arbitrary 32-bits patterns, following the IE "Message Type"
10	→		RRC STATUS	UE shall detect an error and then transmit this message.
11	→		UE CAPABILITY INFORMATION	UE shall re-transmit this message after receiving acknowledgement from the SS for RRC STATUS message.
12	←		UE CAPABILITY INFORMATION CONFIRM	SS sends an error-free message to acknowledge the receipt of the uplink message.

Specific Message Contents

UE CAPABILITY ENQUIRY (Step 2~~ and 7~~)

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement - System specific capability update requirement list - System specific capability update requirement	 TRUE Contains a spare value in this IE

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	 Checked to see if set to "Information element not comprehended"

UE CAPABILITY INFORMATION CONFIRM (Step 9)

Information Element	Value/remark
Unknown bit pattern	An arbitrary 32 bits

RRC STATUS (Step ~~3~~10)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	Checked to see if set to “ASN.1 violation or encoding” or “conditional information element error”

8.1.5.1.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH, reporting the error with protocol error cause set to “Information element value not comprehended”.

After step 4 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH to respond to the UE CAPABILITY ENQUIRY message.

After step 9, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to “ASN.1 violation or encoding” or “conditional information element error”.

After step 10, the UE shall re-transmit the UE CAPABILITY INFORMATION message with a similar content as in step 8.

8.1.5.2 UE Capability in CELL_DCH state: Success after T304 timeout

8.1.5.2.1 Definition

8.1.5.2.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE, if the UTRAN needs an update of the UE’s UMTS capability information or of its inter-system classmark.
2. After the UE receives a UE CAPABILITY ENQUIRY message, it transmits a UE CAPABILITY INFORMATION message on the uplink DCCH. If it fails to receive a UE CAPABILITY INFORMATION CONFIRM message, the UE re-transmits another UE CAPABILITY INFORMATION message until V304 is greater than N304.

Reference

3GPP TS 25.331 clause 8.1.6, 7

8.1.5.2.3 Test purpose

To confirm that the UE re-transmits a UE CAPABILITY INFORMATION message until V304 is greater than N304, after the expiry of timer T304 when the UE cannot receive a UE CAPABILITY INFORMATION CONFIRM message in response to a UE CAPABILITY INFORMATION message.

8.1.5.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH state (state 6-1 or state 6-3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to CELL_DCH state. When the SS transmits a UE CACAPABILITY ENQUIRY message which includes the “Capability update requirement” IE, the UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the “Inter-system message” IE. The SS does not transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE, resulting in the T304 timer to expire. SS shall observe that the UE attempts to transmit a UE CAPABILITY INFORMATION message again. The UE shall re-transmit N304 times, and SS transmits a UE CAPABILITY INFORMATION CONFIRM message to answer the last request and completes this test procedure.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state. SS sets internal counter K =1
2	←		UE CAPABILITY ENQUIRY	Including the "Capability update requirement" IE.
3	→		UE CAPABILITY INFORMATION	Including the "Inter-system message" IE, which indicated the radio access network supported by the UE.
4				If K is greater to N304, then proceed to step 6.
5				The SS does not transmit a response and wait for T304 timer to expire. K=K+1 and goes to step 3.
6	←		UE CAPABILITY INFORMATION CONFIRM	Use default message contents

Specific Message Contents

None

8.1.5.2.5 Test requirement

After step 3 the UE shall re-transmits a UE CAPABILITY INFORMATION message on the uplink DCCH, after each expiry of timer T304. The UE CAPABILITY INFORMATION message shall contain IE "UE radio access capability" indicating the settings found in PIC/PIXIT statements. IE "UE system specific capability" shall carry relevant GSM classmark information. After (N304+1) re-transmissions, the UE shall receive a UE CAPABILITY INFORMATION CONFIRM message.

8.1.5.3 UE Capability in CELL_DCH state: Failure (After N304 re-transmissions)

8.1.5.3.1 Definition

8.1.5.3.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE if the UTRAN needs an update of the UE's UMTS capability information or of its inter-system classmark.

2. In the case of a failure to transmit a UE CAPABILITY INFORMATION in excess of N304 times, the UE initiates the RRC connection re-establishment procedure.

Reference

3GPP TS 25.331 clause 8.1.6, 8.1.7

8.1.5.3.3 Test purpose

To confirm that the UE stops retrying to transmit a UE CAPABILITY INFORMATION message if V304 is greater than N304. It then initiates the RRC re-establishment procedure.

8.1.5.3.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE: CELL_DCH state (state 6-1 or state 6-3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to CELL_DCH state. When the SS transmits a UE CAPABILITY ENQUIRY message which includes the "Capability update requirement" IE, the UE receives this message and transmits a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the "Inter-system message" IE. The SS does not respond with a UE CAPABILITY INFORMATION CONFIRM message but keeps a count on the number of messages received When the T304 timer expires, the UE shall transmit a UE CAPABILITY INFORMATION message again. After sending (N304+1) messages, the UE shall stop sending UE CAPABILITY INFORMATION messages and initiates the RRC connection re-establishment procedure. This is verified in SS by the reception of RRC CONNECTION RE-ESTABLISHMENT REQUEST. SS allows UE to return to "connected state" by issuing RRC CONNECTION RE-ESTABLISHMENT message on the downlink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE starts from CELL_DCH state. SS sets counter K to 1
2	←		UE CAPABILITY ENQUIRY	Including the "Capability update requirement" IE.
3	→		UE CAPABILITY INFORMATION	Including the "Inter-system message" IE.
4				The SS does not transmit a response and allows T304 timer to expire. SS increments counter K If K is greater than N304, proceeds to step 5 else returns to 3.
5	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE assumes that radio link failure has occurred and transmits this message which includes the IE "U-RNTI" containing the U-RNTI allocated to the UE earlier.
6	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
7	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.1.5.3.5 Test requirement

After step 3 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH. The UE shall re-transmit this message for N304 times. Thereafter, the UE shall initiate the RRC re-establishment procedure by sending the message RRC CONNECTION RE-ESTALISHMENT REQUEST.

After step_7 the UE shall have a new RRC connection, using the new transport format dictated in the RRC CONNECTION RE-ESTABLISHMENT message.

8.1.5.4 UE Capability in CELL_FACH state: Success

8.1.5.4.1 Definition

8.1.5.4.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network(s) supported by the UE. UTRAN initiates this procedure when it needs an update of the UE's UMTS capability information or of its inter-system classmark.

2. When the UE receives a UE CAPABILITY ENQUIRY message, the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH.

3. If during the execution of UE capability update procedure, an invalid UE CAPABILITY INFORMATION CONFIRM is received, the UE shall respond with RRC STATUS message and decide whether to re-transmit UE CAPABILITY INFORMATION message by comparing its internal counter against N304.

Reference

3GPP TS 25.331 clause 8.1.6, 8.1.7

8.1.5.4.3 Test purpose

To confirm that the UE transmits an UE CAPABILITY INFORMATION message after it receives a UE CAPABILITY ENQUIRY message from the SS. To confirm that the UE indicates an invalid message reception when erroneous downlink UE CAPABILITY ENQUIRY and UE CAPABILITY INFORMATION CONFIRM messages are received. The UE shall transmit RRC STATUS message with the correct error cause value to SS.

8.1.5.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to the CELL_FACH state after a successful outgoing call attempt. The SS transmits an erroneous UE CAPABILITY ENQUIRY message containing spare value in the IE "Capability update requirement". After receiving such a message, the UE shall report an error using RRC STATUS message with the appropriate error cause specified. Then SS transmits a UE CAPABILITY ENQUIRY message which includes the IE "-Capability update requirement", the UE receives this message and transmits a UE CAPABILITY INFORMATION message on the uplink DCCH, which includes the IE "Inter-system message". The SS transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE to complete the UE capability enquiry procedure. Then SS initiates another UE capability enquiry procedure by transmitting the same UE CAPABILITY ENQUIRY message as in step 4. The UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH. When SS receives this message, it transmits an erroneous UE CAPABILITY INFORMATION CONFIRM message. The content of this message is a concatenation of the message type IE and an arbitrary 32-bits string. The UE shall detect a protocol error and send RRC STATUS message to report this event. After receiving the RLC layer acknowledgement PDU for this message, the UE shall re-transmit UE CAPABILITY INFORMATION message on the uplink DCCH. SS completes this test by sending an error-free UE CAPABILITY INFORMATION CONFIRM message similar to the message sent in step 6.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_FACH state after an outgoing call has been established successfully.
2	←		UE CAPABILITY ENQUIRY	See specific message contents for this message
3	→		RRC STATUS	The IE "Protocol error cause" found in IE "Protocol error information" should be set to "Information element value not comprehended"
4	←		UE CAPABILITY ENQUIRY	Use default message.
5	→		UE CAPABILITY INFORMATION	The message shall include the IE "Inter-system message", which carries the GSM classmark information requested.
6	←		UE CAPABILITY INFORMATION CONFIRM	Use default message.
7	←		UE CAPABILITY ENQUIRY	Same as in step 4.
8	→		UE CAPABILITY INFORMATION	The message content shall be the same as in step 5.
9	←		UE CAPABILITY INFORMATION CONFIRM	This message contains an arbitrary 32-bits patterns, following the IE "Message Type"
10	→		RRC STATUS	UE shall detect an error and then transmit this message on uplink DCCH.
11	→		UE CAPABILITY INFORMATION	UE shall re-transmit this message after receiving the RLC acknowledge-ment PDU for RRC STATUS message from SS.
12	←		UE CAPABILITY INFORMATION CONFIRM	SS sends an error-free message to acknowledge the receipt of the uplink message.

Specific Message Contents

UE CAPABILITY ENQUIRY (Step 2 and 7)

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement - System specific capability update requirement list - System specific capability update requirement	 TRUE Contains a spare value in this IE

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	 Checked to see if set to "Information element not comprehended"

UE CAPABILITY INFORMATION CONFIRM (Step 9)

Information Element	Value/remark
Unknown bit pattern	An arbitrary 32 bits

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	Checked to see if set to "ASN.1 violation or encoding" or "conditional information element error"

8.1.5.4.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH, reporting the error with protocol error cause set to "Information element value not comprehended".

After step 4 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH to respond to the downlink UE CAPABILITY ENQUIRY message.

After step 9, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to "ASN.1 violation or encoding" or "conditional information element error".

After step 10, the UE shall re-transmit the UE CAPABILITY INFORMATION message with a similar content as in step 8.

8.1.5.5 UE Capability in CELL_FACH state: Success after T304 timeout

8.1.5.5.1 Definition

8.1.5.5.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network(s) supported by the UE. UTRAN initiates this action when it needs an update of the UE's UMTS capability information or of its inter-system classmark.
2. After the UE receives a UE CAPABILITY ENQUIRY message, it transmits a UE CAPABILITY INFORMATION message on the uplink DCCH. If it fails to receive a UE CAPABILITY INFORMATION CONFIRM message, the UE re-transmits another UE CAPABILITY INFORMATION message until its internal counter V304 is greater than N304.

Reference

3GPP TS 25.331 clause 8.1.6, 7

8.1.5.5.3 Test purpose

To confirm that the UE re-transmits a UE CAPABILITY INFORMATION message until V304 is greater than N304, after the expiry of timer T304 when it fail to receive a downlink UE CAPABILITY INFORMATION CONFIRM message in response to the uplink UE CAPABILITY INFORMATION message sent.

8.1.5.5.4 Method of test

Initial Condition

System Simulator-:- 1 cell

UE: CELL_FACH state (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to CELL_FACH state. When the SS transmits a UE CAPABILITY ENQUIRY message which includes the IE "Capability update requirement", the UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH that contains the IE "Inter-system message". The SS waits and does not transmit a UE CAPABILITY INFORMATION CONFIRM message to the UE, resulting in the T304 timer to expire. SS shall observe that the UE attempts to transmit a UE CAPABILITY INFORMATION message again. The UE shall re-transmit N304 times, and SS transmits a UE CAPABILITY INFORMATION CONFIRM message to answer the last request and completes this test procedure.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_FACH state. SS sets internal counter K =1
2	←		UE CAPABILITY ENQUIRY	Including the IE "Capability update requirement".
3	→		UE CAPABILITY INFORMATION	Including the IE "Inter-system capability", which indicated the radio access network supported by the UE.
4				If K is greater to N304, then proceeds to step 6. Else, continue with step 5.
5				The SS does not transmit a response and wait for T304 timer to expire. K=K+1 and goes to step 3.
6	←		UE CAPABILITY INFORMATION CONFIRM	Use default message contents

Specific Message Contents

None

8.1.5.5.5 Test requirement

After step 3 the UE shall re-transmit a UE CAPABILITY INFORMATION message on the uplink DCCH, after each expiry of timer T304. The UE CAPABILITY INFORMATION message shall contain IE "UE radio access capability" with the value matching those stated in the ICS/IXIT statements. In the same message, IE "UE system specific capability" shall be present and it carries relevant GSM classmark information. After (N304+1) re-transmissions, the UE shall receive a UE CAPABILITY INFORMATION CONFIRM message.

8.1.6 Direct Transfer

8.1.6.1 Direct Transfer in CELL DCH state(invalid message reception)

8.1.6.1.1 ——————Definition

8.1.6.1.2 Conformance requirement

The UE shall transmit an RRC STATUS message stating the reason "protocol error" in IE "-failure cause" and also set value "Information element value not comprehended" in IE "-Protocol error cause-" when the UE receives a DOWNLINK DIRECT TRANFER message, which includes a spare value for the mandatory IE "-CN domain identity" having criticality defined as "Reject".

Reference

3GPP TS 25.331 -clause 8.1.9

8.1.6.1.3 Test purpose

To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message specifying a spare value in the mandatory IE "-CN domain identity"

8.1.6.1.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: CELL_DCH (state 6-1 or state 6-3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a DOWNLINK DIRECT TRANSFER message to the UE and includes the spare value in the mandatory IE "CN domain identity". The UE shall transmit an RRC STATUS message on the DCCH using AM RLC, setting the value "protocol error" in IE "failure cause". The error type "Information element value not comprehended" shall also be indicated in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	DOWNLINK DIRECT TRANSFER	
2		→	RRC STATUS	

Specific Message Contents

DOWNLINK DIRECT TRANSFER

The contents of DOWNLINK DIRECT TRANSFER message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:.

Information Element	Value/remark
CN domain identity	Spare value

RRC STATUS

Information Element	Value/remark
Message Type	
Protocol error information	Information element value not comprehended
Other information element	Not checked

8.1.6.1.5 Test requirement

After step 1 the UE shall transmit a-n RRC STATUS message on the DCCH using AM RLC setting "protocol error" in IE "failure cause" and setting "Information element value not comprehended" in IE "Protocol error cause".

8.1.6.2 Direct Transfer in CELL FACH state(invalid message reception)

8.1.6.2.1 ——————Definition

8.1.6.2.2 Conformance requirement

The UE shall transmit an RRC STATUS message stating the reason "protocol error" in IE "failure cause" and also set value "Information element value not comprehended" in IE "Protocol error cause-" when the UE receives a DOWNLINK DIRECT TRANFER message, which includes a spare value for the mandatory IE "CN domain identity" having criticality defined as "Reject".

Reference

3GPP TS 25.331 clause 8.1.9

8.1.6.2.3 Test purpose

To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message specifying a spare value in the mandatory IE "CN domain identity"

8.1.6.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH(state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a DOWNLINK DIRECT TRANSFER message to the UE and includes the spare value in the mandatory IE "CN domain identity". The UE shall transmit an RRC STATUS message on the DCCH using AM RLC, setting the value "protocol error" in IE "failure cause". The error type "Information element value not comprehended" shall also be indicated in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	DOWNLINK DIRECT TRANSFER	
2		→	RRC STATUS	

Specific Message Contents

DOWNLINK DIRECT TRANSFER

The contents of DOWNLINK DIRECT TRANSFER message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:.

Information Element	Value/remark
CN domain identity	Spare value

RRC STATUS

Information Element	Value/remark
Message Type	
Protocol error information	Information element value not comprehended
Other information element	Not checked

8.1.6.2.5 Test requirement

After step 1 the UE shall transmit a n RRC STATUS message on the DCCH using AM RLC setting "protocol error" in IE "failure cause" and setting "Information element value not comprehended" in IE "Protocol error cause".

8.1.7 Security mode control

8.1.7.1 Security mode control in CELL_DCH state

8.1.7.1.1 Definition

8.1.7.1.2 Conformance requirement

1. This procedure is used to trigger the start of ciphering or to command a change of the cipher key, both for the signalling link and for a user plane connection.

2. The SRNC transmits a SECURITY MODE COMMAND message to the UE, which indicates the downlink activation time. The UE shall apply the old ciphering configuration before the stated downlink activation time. It shall start to decipher using the new ciphering configuration at the downlink activation time.

3. After the UE transmit the SECURITY MODE COMPLETE message, it starts to cipher transmission in the uplink using the new configuration at the uplink activation time. It shall transmit a SECURITY MODE COMPLETE message, which includes uplink activation time, and configure the downlink reception using new ciphering configuration at the beginning of downlink activation time.

Reference

3GPP TS 25.331 clause 8.1.12

8.1.7.1.3 Test purpose

To confirm that the UE correctly communicates to the UTRAN and activates the new ciphering configurations after the stated activation time. To confirm that after the UE receives a SECURITY MODE COMMAND message, it transmits a SECURITY MODE COMPLETE message to the UTRAN using the old ciphering configuration.

8.1.7.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH(state 6-1 or state 6-3) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the RRC connected state CELL_DCH. The SS transmits a SECURITY MODE COMMAND message in which ciphering is requested to be activated, but the IE "Ciphering algorithm" is set to an unknown value. The UE shall not trigger any ciphering algorithm and it shall respond by sending SECURITY MODE FAILURE message on the DCCH. Next, SS transmits a valid SECURITY MODE COMMAND message which includes the downlink activation time for RB 3 and RB 4. Then the UE shall start to configure ciphering in downlink and transmits a SECURITY MODE COMPLETE message which contains the uplink activation time for RB 3 and RB 4. The UE shall be able to communicate with the SS in the downlink direction after the downlink activation time has passed. Moreover, it shall apply the ciphering algorithm in the uplink direction.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				RRC connected state on DCCH
2		←	SECURITY MODE COMMAND	IE ”Ciphering Algorithm” is set to an invalid value
3		→	SECURITY MODE FAILURE	IE “Failure Cause” should be set to “Protocol Error” and IE “Protocol Error Information” should be set to “Information element value not comprehended”.
4		←	SECURITY MODE COMMAND	See specific message contents.
5		→	SECURITY MODE COMPLETE	SS verifies that this message is sent unciphered.
6				In uplink direction, SS checks that all data from RB 3 and RB 4 are ciphered. In the downlink direction, SS verifies that data are ciphered only after the RLC sequence numbers indicated in step 4 have elapsed.

Specific Message Contents

SECURITY MODE COMMAND (Step 2)

Information Element	Value/remark
Ciphering mode info	
Ciphering mode command	Start
Security capability	1 of the 15 spare values
Activation time for DPCH	Not Present
Activation Time	
Radio bearer downlink ciphering activation time info	
Radio bearer activation time	2 RBs
RB identity$_1$	3
RLC sequence number$_1$	Current RLC SN + 2
RB identity$_2$	4
RLC sequence number$_2$	Current RLC SN + 2

SECURITY MODE COMMAND (Step 4)

Information Element	Value/remark
Ciphering mode command	Start
Security capability	
Ciphering algorithm capability	0000000000000001B(UEA1)
Integrity protection algorithm capability	0000000000000001B(UEA1)
Activation time for DPCH	Not present
Activation time	
Radio bearer downlink ciphering activation time info	
Radio bearer activation time	2 RBs
RB identity$_1$	3
RLC sequence number$_1$	Current RLC SN+2
RB identity$_2$	4
RLC sequence number$_2$	Current RLC SN+2

8.1.7.1.5 Test requirement

After step 2 the UE shall transmit a SECURITY MODE FAILURE message to report protocol error detected in the earlier SECURITY MODE COMMAND message. The UE shall be able to communicate normally with the SS, with all control data unciphered.

After step 4 the UE shall RLC-acknowledge the receipt of the SECRUITY MODE COMMAND message using unciphered mode. SS checks that the SECURITY MODE COMPLETE message is received unciphered.

After step 5 SS verifies that downlink control data from RB 3 and RB 4 are ciphered using UEA1 algorithm, after the RLC sequence numbers as a downlink activation time stated in step 4 have elapsed. In the uplink direction, the UE shall start to cipher on the uplink after the RLC sequence number as an uplink activation time stated in step 5 has elapsed.

8.1.7.2 Security mode control in CELL_FACH state

8.1.7.2.1 ————Definition

8.1.7.2.2 Conformance requirement

1. This procedure is used to trigger the stop or start of ciphering, or to command the restart of ciphering with the new ciphering configuration. It is also used to start integrity protection or modify integrity protection configuration, both for signalling link(s) and any radio access bearer(s).

2. When the UE receives a SECURITY MODE COMMAND message from the UTRAN, which indicates the downlink activation time and new integrity protection configuration, the UE shall apply the old ciphering configuration before the stated downlink activation time. It shall start to decipher using the new ciphering configuration at the downlink activation time.

3. The UE shall transmit SECURITY MODE COMPLETE message using the new integrity protection configuration stated in the received SECURITY MODE COMMAND message. The SECURITY MODE COMPLETE message shall include the ciphering uplink activation time. The UE shall start to apply the new ciphering configuration on the uplink direction, after the uplink activation time has elapsed.

Reference

3GPP TS 25.331 clause 8.1.12

8.1.7.2.3 Test purpose

To confirm that after the UE receives a SECURITY MODE COMMAND message, it transmits a SECURITY MODE COMPLETE message to the UTRAN using the old ciphering configuration together with the application of the new integrity protection configuration. To confirm that the UE applies the old ciphering configuration in the downlink prior to the activation time; and uses the new ciphering configuration on and after the activation time. To confirm that the UE starts to cipher its uplink transmissions after the uplink activation time stated in SECURITY MODE COMPLETE message is reached.

8.1.7.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH (state 6-2 or state 6-4) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the RRC connected state CELL_FACH. The SS transmits a SECURITY MODE COMMAND message in which ciphering is requested to be activated, but the IE "Ciphering algorithm" is set to an unknown value. The UE shall not trigger any ciphering algorithm and it shall respond by sending SECURITY MODE FAILURE message on the DCCH. Next, SS transmits a valid SECURITY MODE COMMAND message which includes IE "Downlink activation time" for RB2 and IE "Integrity check info". The UE shall check the integrity check info. It shall start to configure ciphering in downlink and transmit a SECURITY MODE COMPLETE message, which contains the uplink activation time for RB2. This message shall contain the IE "Integrity check info". SS records the uplink ciphering activation time for RB 2. Next, SS transmits COUNTER CHECK message repeated on the downlink DCCH using RLC-AM mode. The UE shall respond to each downlink message with a COUNTER CHECK RESPONSE message on the uplink DCCH using RLC-AM. SS confirms that the uplink COUNTER CHECK RESPONSE messages are not ciphered. SS also checks all uplink messages are integrity-protected by UIA1 algorithm, and that the messages contain the

correct values for “Integrity mode info” IE. This cycle repeats itself until both the uplink and downlink ciphering activation time for RB 2 have elapsed. After both the uplink and downlink ciphering activation time for RB 2 have passed, the UE shall be able to communicate with the SS using the new ciphering configurations. This can be verified in SS through the reception of a correctly ciphered and integrity-protected COUNTER CHECK RESPONSE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_FACH state.
2	←		SECURITY MODE COMMAND	IE ”Ciphering Algorithm” is set to an invalid value
3	→		SECURITY MODE FAILURE	IE “Failure Cause” shall be set to “Protocol Error” and IE “Protocol Error Information” shall be set to “Information element value not comprehended”.
4	←		SECURITY MODE COMMAND	See specific message contents.
5	→		SECURITY MODE COMPLETE	SS verifies that this message is sent unciphered. SS records the uplink ciphering activation time for RB 2.
6	←		COUNTER CHECK	SS repeats step 6 and step 7 until its internal uplink and downlink RLC sequence numbers have both surpassed the uplink and downlink ciphering activation times specified for RB2. This message is sent on the downlink DCCH using RLC-AM. See specific message content.
7	→		COUNTER CHECK RESPONSE	UE shall send this message on the uplink DCCH using RLC-AM. See specific message content.
8				SS verifies that the last COUNTER CHECK RESPONSE message is both integrity-protected and ciphered correctly.

Specific Message Contents

SECURITY MODE COMMAND (Step 2)

See notes below for the value of Y.

Information Element	Value/remark
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	Spare value
Integrity protection algorithm capability	Spare value
Ciphering mode info	
Ciphering mode command	Start
Activation time for DPCH	Not Present
Radio bearer downlink ciphering activation time info	
RB Identity	2
RLC sequence number	Current RLC SN + Y
Integrity protection mode info	
Integrity protection mode command	Start
Downlink integrity protection activation info	Not Present
Integrity protection algorithm	If integrity is indicated to be active on IXIT statements in TS 34.123-2, use one of the supported integrity algorithms
Integrity protection initialisation number	0000 0000 0000 0000 H (FRESH)
CN domain identity	Supported domain

SECURITY MODE COMMAND (Step 4)

See notes below for the value of Y.

Information Element	Value/remark
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	If ciphering is indicated to be active on IXIT statements in TS 34.123-2, use one of the supported ciphering algorithms
Integrity protection algorithm capability	0000000000000010B(UIA1)
Ciphering mode info	Start
Ciphering mode command	Not Present
Activation time for DPCH	
Radio bearer downlink ciphering activation time info	2
RB Identity	Current RLC SN + Y
RLC sequence number	Start
Integrity protection mode info	Not Present
Integrity protection mode command	If integrity is indicated to be active on IXIT statements in TS 34.123-2, use one of the supported integrity algorithms
Downlink integrity protection activation info	
Integrity protection algorithm	
Integrity protection initialisation number	0000 0000 0000 0000 H (FRESH)
CN domain identity	Supported domain

SECURITY MODE COMPLETE (Step 5)

Information Element	Value/remark
Integrity check info	
- Message Authentication code	Checked to see if present
- RRC Message sequence number	Checked to see if present
Uplink integrity protection activation info	
- RRC message sequence number list	Check to see if it the RRC SN for RB 0 to RB 4 are present
Radio bearer uplink ciphering activation info	
- RB Identity	2
- RLC sequence number	SS records this value. See step 8 in 'expected sequence'

COUNTER CHECK (Step 6)

Information Element	Value/remark
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	2
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#2 in uplink
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#2 in downlink

COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark
Integrity check info RB COUNT-C information - RB identity - COUNT-C uplink - COUNT-C downlink	Checked to see if the MAC code match Check to if this IE is absent

Note:

Y = 2 * (size of COUNTER CHECK message, after PER encoding). The unit of Y is the number of RLC-AM PDU.

8.1.7.2.5 Test requirement

After step 2 the UE shall transmit a SECURITY MODE FAILURE message to report the protocol error detected in the first SECURITY MODE COMMAND message. The UE shall be able to communicate normally with the SS, with all control data on the signalling radio bearers unciphered.

After step 4 the UE shall RLC-acknowledge the receipt of the SECRUITY MODE COMMAND message using unciphered mode and which includes calculated integrity check info. SS checks that the SECURITY MODE COMPLETE message is received unciphered and that the calculated MAC-I values in "integrity check info" IE is correct.

After step 5 SS verifies that all uplink signalling messages on RB1, RB2, RB3 and RB4 are integrity protected with UIA1 algorithm.

After step 7 SS verifies that the last COUNTER CHECK RESPONSE message received is integrity protected with UIA1 algorithm and ciphered with the algorithm indicated in the second SECURITY MODE COMMAND (Step 4) message.

8.1.8 Counter check

8.1.8.1 Counter check in CELL_DCH state

8.1.8.1.1 Definition

8.1.8.1.2 Conformance requirement

When the UE receives a COUNTER CHECK message that includes matched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and omitting "RB COUNT-C information" IE in this message.

When the UE receives a COUNTER CHECK message that includes any mismatched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and specifies the current COUNT-C information of the RAB(s) with mismatched values.

Reference

3GPP TS 25.331 clause 8.1.15

8.1.8.1.3 Test purpose

To confirm that the UE transmits a COUNTER CHECK RESPONSE message after it receives a COUNTER CHECK message from the SS. To confirm that the UE responds to the reception of an invalid downlink COUNTER CHECK message by transmitting a RRC STATUS message on the uplink DCCH, stating the correct error cause value in message.

8.1.8.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH state (state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. The SS transmits an erroneous COUNTER CHECK message. The content of this message is a concatenation of the message type IE and an arbitrary 32-bits string. The UE shall detect a protocol error and send RRC STATUS message to report this event. Next, the SS transmits a COUNTER CHECK message that includes the current COUNT-C MSB information in each radio access bearer. The UE shall react by sending a COUNTER CHECK RESPONSE message on the uplink DCCH, which does not include "RB COUNT-C information" IE. The SS transmits a COUNTER CHECK message which includes the current COUNT-C MSB information reversed all the bits in each radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio access bearer established.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state after an outgoing call has been established successfully.
2	←		COUNTER CHECK	This message contains an arbitrary 32-bits pattern, following the IE "Message Type"
3	→		RRC STATUS	UE shall detect a protocol error and then transmit this message.
4	←		COUNTER CHECK	See specific message content.
5	→		COUNTER CHECK RESPONSE	The message shall not include the IE "RB COUNT-C information".
6	←		COUNTER CHECK	See specific message content.
7	→		COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".

Specific Message Contents

COUNTER CHECK (Step 2)

Information Element	Value/remark
Unknown bit pattern	An arbitrary 32-bits string

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	Checked to see if set to "ASN.1 violation or encoding" or "conditional information element error"

COUNTER CHECK (Step 4)

Information Element	Value/remark
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	5
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#5 in uplink
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#5 in downlink

COUNTER CHECK RESPONSE (Step 5)

Information Element	Value/remark
Integrity check info	Not checked
RB COUNT-C information	Check to if this IE is absent
- RB identity	
- COUNT-C uplink	
- COUNT-C downlink	

COUNTER CHECK (Step 6)

Information Element	Value/remark
RB COUNT-C MSB information	
- RB identity	Check to see if set to 4
- COUNT-C MSB uplink	Toggle all bits of the current COUNT-C MSB in uplink for RB#5
- COUNT-C MSB downlink	Toggle all bits of the current COUNT-C MSB in downlink for RB#5

COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 5
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#5 in uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#5 in downlink

8.1.8.1.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to “ASN.1 violation or encoding” or “conditional information element error”.

After step 4 the UE shall transmit a COUNTER CHECK RESPONSE message which does not includes the IE ”RB COUNT-C information” to indicates that a matched comparison result is obtained.

After step 6, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE ”RB COUNT-C information” to report that a mismatch in COUNT-C value is detected in RB#5.

8.1.8.2 Counter check in CELL_FACH state

8.1.8.2.1 Definition

8.1.8.2.2 Conformance requirement

When the UE receives a COUNTER CHECK message that includes matched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and omitting “RB COUNT-C information” IE in this message.

When the UE receives a COUNTER CHECK message that includes any mismatched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and specifies the current COUNT-C information of the RAB(s) with mismatched values.

Reference

3GPP TS 25.331 clause 8.1.15

8.1.8.2.3 Test purpose

To confirm that the UE transmits a COUNTER CHECK RESPONSE message after it receives a COUNTER CHECK message from the SS. To confirm that the UE responds to the reception of an invalid downlink COUNTER CHECK message by transmitting a RRC STATUS message on the uplink DCCH, stating the correct error cause value in message.

8.1.8.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH state (state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to the CELL_FACH state after a successful outgoing call attempt. The SS transmits an erroneous COUNTER CHECK message. The content of this message is a concatenation of the message type IE and an arbitrary 32-bits string. The UE shall detect a protocol error and send RRC STATUS message to report this event. Next, the SS transmits a COUNTER CHECK message that includes the current COUNT-C MSB information in each radio access bearer. The UE shall react by sending a COUNTER CHECK RESPONSE message on the uplink DCCH, which does not include "RB COUNT-C information" IE. The SS transmits a COUNTER CHECK message, which includes the current COUNT-C MSB information for each radio bearer but with all the bits reversed. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio access bearer established.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_FACH state after an outgoing call has been established successfully.
2	←		COUNTER CHECK	This message contains an arbitrary 32-bits pattern, following the IE "Message Type"
3	→		RRC STATUS	UE shall detect a protocol error and then transmit this message.
4	←		COUNTER CHECK	See specific message content.
5	→		COUNTER CHECK RESPONSE	The message shall not include the IE "RB COUNT-C information".
6	←		COUNTER CHECK	See specific message content.
7	→		COUNTER CHECK RESPONSE	The message shall include the IE "RB COUNT-C information".

Specific Message Contents

COUNTER CHECK (Step 2)

Information Element	Value/remark
Unknown bit pattern	An arbitrary 32-bits string

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	Checked to see if set to “ASN.1 violation or encoding” or “conditional information element error”

COUNTER CHECK (Step 4)

Information Element	Value/remark
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	5
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#5 in uplink
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#5 in downlink

COUNTER CHECK RESPONSE (Step 5)

Information Element	Value/remark
Integrity check info	Not checked
RB COUNT-C information	Check to if this IE is absent
- RB identity	
- COUNT-C uplink	
- COUNT-C downlink	

COUNTER CHECK (Step 6)

Information Element	Value/remark
RB COUNT-C MSB information	
- RB identity	Check to see if set to 4
- COUNT-C MSB uplink	Toggle all bits of the current COUNT-C MSB in uplink for RB#5
- COUNT-C MSB downlink	Toggle all bits of the current COUNT-C MSB in downlink for RB#5

COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 5
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#5 in uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#5 in downlink

8.1.8.2.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to “ASN.1 violation or encoding” or “conditional information element error”.

After step 4 the UE shall transmit a COUNTER CHECK RESPONSE message which does not includes the IE ”RB COUNT-C information” to indicates that a matched comparison result is obtained.

After step 6, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE ”RB COUNT-C information” to report that a mismatch in COUNT-C value is detected in RB#5.

8.1.9 Signalling Connection Release Request

8.1.9.1 Definition

8.1.9.2 Conformance requirement

The UE shall initiate the signalling connection release procedure when the higher layer entities in the UE request to release one or more signalling session (one example of such case is location update failure). In this case, the UE shall transmit a SIGNALLING CONNECTION RELEASE REQUEST message, which includes the flow identifier of the signalling flow to be released.

Reference

3GPP TS 25.331 clause 8.1.14

8.1.9.3 Test purpose

To confirm that the UE transmits a SIGNALLING CONNECTION RELEASE REQUEST message after it fails to receive a response for the LOCATION UPDATING REQUEST message.

8.1.9.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: Switched off(state 1) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is turned on and it shall find a suitable cell to camp on. The UE shall initiate a location updating procedure. The UE shall establish an RRC connection and transmits a LOCATION UPDATING REQUEST message using the INITIAL DIRECT TRANSFER message. The SS does not respond to this message, and the UE shall send a SIGNALLING CONNECTION RELEASE REQUEST message which includes the flow identifier with the same value as that in the INITIAL DIRECT TRANSFER message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is powered on.
2	→		RRC CONNECTION REQUEST	UE shall initiate the location updating procedure.
3	←		RRC CONNECTION SETUP	
4				The UE configures the layer 2 and layer 1.
5	→		RRC CONNECTION SETUP COMPLETE	
6	→		INITIAL DIRECT TRANSFER (LOCATION UPDATING REQUEST)	LOCATION UPDATE REQUEST is embedded in this message transmission.
7				The SS does not respond and waits until the timer for location update procedure expires.
8	→		SIGNALLING CONNECTION RELEASE REQUEST	

Specific Message Content

SIGNALLING CONNECTION RELEASE REQUEST (Step 8)

Information Element	Value/remark
Flow Identifier	Check to see if this value is the as same as in the uplink INITIAL DIRECT TRANSFER message.

8.1.9.5 Test requirement

After step 1 the UE shall initiate the LOCATION UPDATING procedure and establish an RRC connection.

After step 7 the UE shall transmit a SIGNALLING CONNECTION RELEASE REQUEST message which includes the same flow identifier as that found in the INITIAL DIRECT TRANSFER message.

8.2 Radio Bearer control procedure

8.2.1 Radio Bearer Establishment

8.2.1.1 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success(Data integrity protection algorithm is not applied)

8.2.1.1.1 Definition

8.2.1.1.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

(This is the case where data integrity protection algorithm is not applied.)

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.1.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8.2.1.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH~~CELL~~_DCH(state 6-5) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state, after the test operator is prompted to make an out-going call. Before step 1, only signalling radio bearers have been established. The SS transmits a RADIO BEARER SETUP message to the UE after it sets up L1 including the start of tx/rx. This message requests the establishment of RABs for carrying the traffic of the speech call. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	This message do not contain IE "integrity check info" and "integrity protection mode info"
2	→		RADIO BEARER SETUP COMPLETE	This message do not contain "integrity check info" and "Uplink integrity activation info
3				To confirm the communication.

Specific Message Contents

For RADIO BEARER SETUP in step 1, using the message sub-type indicated as "Speech in CS" or " Non-speech in CS" ~~or "Packet to CELL_DCH from CELL_DCH in PS"~~ found in default message content clause 9 of TS 34.108 and Annex A of TS 34.123-1, respectively.

8.2.1.1.5 Test requirement

After step 2 the UE shall communicate with the SS on the radio bearer for its implementation.

8.2.1.2 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success(Effected Data integrity protection algorithm)

8.2.1.2.1 Definition

8.2.1.2.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message, which applies data integrity function, and then communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 clause 8.2.1, 8.5.11.

8.2.1.2.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message which contains IE "Integrity check info" and IE "Integrity protection mode info" received from the SS.

8.2.1.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: CS-DCCH~~CELL~~_DCH(state 6-5) as specified in clause 7.4 of TS 34.108 and data integrity algorithm is not applied

Test Procedure

The UE is in the CELL_DCH state, after the test operator is prompted to make an out-going data call. Before step 1, only signalling radio bearers have been established. The SS transmits a RADIO BEARER SETUP message which is including IE "integrity check info" and "integrity protection mode info" to the UE after it sets up L1 including the start of tx/rx. This message requests the establishment of RABs for carrying the traffic of the call. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message which is including IE "integrity check info" using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	This message contain IE "integrity check info" and "integrity protection mode info"
2	→		RADIO BEARER SETUP COMPLETE	This message contain "integrity check info"
3				To confirm the communication.

Specific Message Contents

For RADIO BEARER SETUP in step 1, using the message sub-types indicated as "Speech in CS" or "Non-speech in CS" ~~Packet to CELL_DCH from CELL_DCH in PS"~~ as found in default message content clause 9 of TS 34.108 and Annex A, respectively.

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical ~~to identical message sub-type found in TS 34.108 Clause 8,~~ with the following exceptions:

Information Element	Value/remark
Integrity check info	
- Message authentication code	Bit string (32) MAC-I See TS 33.102
- RRC Message sequence number	0
Integrity protection mode info	Present
- Integrity protection mode command	"Start"
- Downlink integrity protection activation info	Not present (It is needed only when the IE "Integrity protection mode command" has the value "modify" .)
- integrity protection algorithm	~~"0001$_2$";~~ UIA1~~, Kasumi~~
- integrity protection initialisation number	Bit string (32) FRESH See TS 33.102

RADIO BEARER SETUP COMPLETE

Information Element	Value/remark
Integrity check info	
- Message authentication code	Not checked(MAC-I See TS 33.102)
- RRC Message sequence number	Not checked
Uplink Integrity protection activation info	Not checked
Hyper Frame Number	Not checked

8.~~.~~2.1.2.5 Test requirement

After step 2 the UE shall communicate with the SS on the radio bearer for its implementation. This can be verified by the correct reproduction of the u-plane data transmitted and received between the test operator and SS.

8.~~.~~2.1.3 Radio Bearer Establishment for transition ~~-~~from CELL_DCH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.1.3.1 ~~————————~~Definition

8.~~.~~2.1.3.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message which includes ~~-~~unsupported configuration parameters and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE "~~-~~failure cause".

Reference

3GPP TS 25.331 ~~-~~clause 8.2.1

8.~~.~~2.1.3.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message in case of receiving a RADIO BEARER SETUP message which includes parameters of its unsupported configuration.

8.~~.~~2.1.3.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: CS-DCCH~~CELL~~_DCH(state 6-5) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message as the frequency cannot be supported ~~-~~by the UE. After the UE receives this message, it transmits a RADIO BEARER SETUP

FAILURE message on the DCCH using AM RLC which is set to “configuration unacceptable” in IE ”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	Including the unsupported configuration for the UE.
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is indicated as “Speech in CS” or “Non-speech in CS“ as found in default message content clause 9 of TS 34.108 and Annex A respectively ~~identical to those in default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 16383. Not Present.

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.1.3.5 Test requirement

~~?~~After step 1 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “configuration unacceptable” in IE ”failure cause”.

8.2.1.4 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)

8.2.1.4.1 Definition

8.2.2.1.4.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer by the T312 expiry and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “physical channel failure” in IE ”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.4.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE fails to configure the new radio bearer following detection of physical channel failure after T312 expiry.

8.2.1.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH~~CELL~~_DCH(state 6-5) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE and does not configure the new radio bearer. Then after T312 expiry, the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	The SS does not configure the new radio bearer stated in the message.
2				The UE does not configure the new radio bearer and reverts to the old configuration.
3		→	RADIO BEARER SETUP FAILURE	UE shall transmit this message using the old RRC signalling bearer operating in RLC-AM mode.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is indicated as "Speech in CS" or "Non-speech in CS" as found in default message content clause 9 of TS 34.108 and Annex A, ~~respectivery~~respectively.

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.1.4.5 Test requirement

~~?~~After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

8.2.1.5 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Physical channel Failure and reversion failure)

8.2.1.5.1 Definition

8.2.1.5.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer establishment procedure.

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.5.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot establish the new radio bearer for the L1 configuration and cannot revert to the old configuration.

8.2.1.5.4 Method of test

Initial Condition

System Simulator: 2 cells- Cell 1 is active, Cell 2 is inactive

UE: CS-DCCH~~CELL~~_DCH(state 6-5) as specified in clause 7.4 of TS 34.108 in cell No.1

Test Procedure

The UE is in the CELL_DCH state in cell 1.The SS begins to broadcast the BCCH in cell 2, with a power level suitable for camping but lower than that of cell 1. Next, SS transmits a RADIO BEARER SETUP message to the UE. As the SS does not configure the new radio bearer and deletes the old configuration the UE fails to configure L1 and fails to revert to the old configuration. Then the UE shall find cell 2 and transmits to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes the IE "U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS transmits a BCCH in cell 2 but with a lower power level than in cell 1.
2		←	RADIO BEARER SETUP	The SS does not configure the new radio bearer and delete the old configuration.
3				The UE shall detect a failure to configure the new radio bearers and also subsequently, cannot revert to old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall detect the presence of cell 2 and transmits this message which includes the IE "U-RNTI" it has been assigned to.
5		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

~~None~~

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is indicated as "Speech in CS" or "Non-speech in CS" as found in default message content clause 9 of TS 34.108 and Annex A

8.2.1.5.5 Test requirement

After step 3 the UE shall find a new cell 2, enter CELL_FACH state, and transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

After step 6 the UE shall re-establish an RRC connection in cell 2.

8.2.1.6 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.1.6.1 Definition

8.2.1.6.2 Conformance requirement

If the UE is reconfiguring itself after receiving a radio bearer message other than RADIO BEARER SETUP message, and when the UE subsequently receive a RADIO BEARER SETUP message, The UE shall keep its old configuration when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message and the UE shall transmit an RRC STATUSRADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE "failure case".

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.6.3 Test purpose

To confirm that the UE keeps its configuration and transmits an RRC STATUS RADIO BEARER SETUP FAILURE message when the UE receives another a RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message.

8.2.1.6.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH+DTCHCELL DCH(state 6-9) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER SETUP message to the UE before the UE configures the radio bearer the UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUPRECONFIGURATION	Including IE "Uplink DPCH info"
2	←		RADIO BEARER SETUP	The SS send this message before the expiry of activation time specified in RADIO BEARER SETUPthe message of step 1.
3	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

For RADIO BEARER SETUP RECONFIGURATION in step 1, use the message sub-type indicated as "Speech in CS" found in Annex A, with the exception of the following Information Elements:

RADIO BEARER SETUP RECONFIGURATION (Step 1)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER SETUP (Step 2)

The contents of RADIO BEARER SETUP message in this test case is indicated as “Speech in CS” or “Non-speech in CS“ as found in default message content clause 9 of TS 34.108 and Annex A respectively with the following exceptions:~~For RADIO BEARER SETUP in step 2, use the message sub-type indicated as “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A, with the exception of the following Information Elements:~~

Information Element	Value/remark
Activation Time	Not Present

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure case	Incompatible ~~simultaneous~~simultaneous ~~reconfigration~~reconfiguration
Other information element	Not checked

8.~~.~~2.1.6.5 Test requirement

After step 2 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE ”failure cause”.

8.~~.~~2.1.7 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception)

8.2.1.7.1 ~~————————~~Definition

8.~~.~~2.1.7.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message, which includes the spare value in the mandatory IE ”~~-~~DRX indicator” and criticality is defined as “Reject”. Then it transmits a RADIO BEARER SETUP FAILURE message which is set to “protocol error” in IE ”~~-~~failure cause” and is set to “Information element value not comprehended” in IE ”~~-~~Protocol error cause”.

Reference

3GPP TS 25.331 ~~-~~clause 8.2.1

8.~~.~~2.1.7.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER SETUP message which indicates the spare value in the mandatory IE ” DRX indicator” whose criticality is defined as “Reject”.

8.~~.~~2.1.7.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: CS-DCCH~~CELL~~ _DCH(state 6-5) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE which indicates a spare value in the mandatory IE "DRX indicator" whose criticality is defined as "Reject". The UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE "failure cause", and is set to "Information element value not comprehended" in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
2		→	RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical as "Speech in CS" or "Non-speech in CS" as found in default message content clause 9 of TS 34.108 and Annex A respectively, ~~to that of default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.1.7.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE "failure cause" and set to "Information element value not comprehended" in IE "Protocol error cause".

8.2.1.8 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success

8.2.1.8.1 Definition

8.2.1.8.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.8.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8.~~.~~2.1.8.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: PS-DCCH~~CELL~~_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state, after the test operator is asked to initiate a packet-switched data call. The SS transmits a RADIO BEARER SETUP message ~~-~~to the UE after it sets up L1. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	SS requests test operator to make an outgoing packet-switched data call.
2	→		RADIO BEARER SETUP COMPLETE	
3				To confirm the communication between UE and SS, based on the exchange of packets.

Specific Message Contents

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as “Packet to CELL_FACH~~DCH~~ from CELL_DCH~~FACH~~ in PS” found in ~~default message content clause.~~ Annex A.

8.~~.~~2.1.8.5 Test requirement

After step 2 the UE shall communicate with the SS on the radio bearer for its implementation.

~~8..2.1.9 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)~~

~~8.2.1.9.1 Definition~~

~~8..2.1.9.2 Conformance requirement~~

~~The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message, which indicates an unsupported configuration parameters and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “configuration unacceptable” in IE_” failure cause”.~~

~~Reference~~

~~3GPP TS 25.331 clause 8.2.1~~

~~8..2.1.9.3 Test purpose~~

~~To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message in case of receiving a RADIO BEARER SETUP message which includes parameters of unsupported configuration.~~

~~8..2.1.9.4 Method of test~~

~~Initial Condition~~

~~System Simulator : 1 cell~~

~~UE : PS-DCCHCELL_DCH(state 6-7) as specified in clause 7.4 of TS 34.108~~

~~Test Procedure~~

~~The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message specifying a frequency that cannot be supported by the UE. After the UE receives this message, it transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE " failure cause".~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~←~~		~~RADIO BEARER SETUP~~	~~Including the unsupported configuration for the UE.~~
~~2~~	~~→~~		~~RADIO BEARER SETUP FAILURE~~	~~The UE does not change the configuration.~~

~~Specific Message Contents~~

~~RADIO BEARER SETUP~~

~~The contents of RADIO BEARER SETUP message in this test case is identical to as "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A that of default contents of layer 3 messages for RRC tests with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~Frequency info~~ ~~- UARFCN uplink(Nu)~~ ~~- UARFCN downlink(Nd)~~	 ~~16384.~~ ~~Not present~~

~~RADIO BEARER SETUP FAILURE~~

~~Information Element~~	~~Value/remark~~
~~Message Type~~ ~~Failure cause~~ ~~Other information element~~	 ~~Configuration unacceptable~~ ~~Not checked~~

~~8..2.1.9.5 Test requirement~~

~~After step 1 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting value "configuration unacceptable" in IE " failure cause".~~

8.~~.~~2.1.9~~10~~ Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Failure (Physical channel Failure)

8.2.1.9~~10~~.1 ~~—~~Definition

8.~~.~~2.1.9~~10~~.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE failed to access the assigned physical channel according to a RADIO BEARER SETUP message when transiting from CELL_DCH state to CELL_FACH state.

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.910.3 Test purpose

To confirm that the UE perform a cell update procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER SETUP message as it transits from CELL_DCH to CELL_FACH.

8.2.1.910.4 Method of test

Initial Condition

System Simulator: 2 cells- Cell 1 is active, Cell 2 is inactive

UE: PS-DCCH~~CELL~~_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and transmits a RADIO BEARER SETUP message as the transition occurs from CELL_DCH to CELL_FACH. The UE cannot access the assigned physical channel, as the SS does not transmit any data on the downlink common channel in cell 1. Then the UE shall initiate the cell update procedure in cell 2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS broadcasts BCCH in cell No. 2.
2		←	RADIO BEARER SETUP	Assigned the transition from CELL_DCH to CELL_FACH
3				The UE cannot use the assigned the physical channel.
4		→	CELL UPDATE	The UE finds a new cell 2and begins a cell update procedure.
5		←	CELL UPDATE CONFIRM	In the CELL_FACH state

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical as “Packet to CELL_FACH from CELL_DCH in PS“ as found in Annex A

~~None~~

8.2.1.910.5 Test requirement

After step 3 the UE shall find a new cell No.2 and enter to CELL_FACH state. Then the UE shall initiate a cell update procedure in cell No.2.

~~8..2.1.11 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)~~

~~8.2.1.11.1 Definition~~

~~8..2.1.11.2 Conformance requirement~~

~~If the UE is reconfiguring itself after receiving a message, and when the UE subsequently receive a RADIO BEARER SETUP message,The UE shall keep its old configuration when the UE receives another RADIO~~

BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message. The the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.11.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message.

8..2.1.11.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS sends a RADIO BEARER RECONFIGURATION any RADIO BEARER SETUP message to request the UE to perform radio bearer reconfigurationestablishment procedure. Before the UE can complete the configuration of the radio bearer, the SS transmits another RADIO BEARER SETUP message. The UE shall keep the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	Message includes IE "PRACH info (for RACH)"
2	←		RADIO BEARER SETUP	Message includes the IE "Uplink DPCH info" The SS send this message before the expiry of activation time specified in the message of step 1.
3	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration. UE shall not have access to the DTCH channel indicated in the RADIO BEARER SETUP messages of step 1 and step 2.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

For this message, use the message sub-type entitled "Packet to CELL_FACH from CELL_DCH in PS" in the default message content. areisas "Packet to CELL_FACH from CELL_DCH in PS" as found in Annex A with the following exceptions:to those in the default contents of layer 3 messages for RRC tests. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Current CFN [current CFN mod 8 + 8]

RADIO BEARER SETUP (Step 2)

For this message, use the message sub-type entitled "Packet to CELL_DCH from CELL_DCH in PS" in the default message content. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Not Present.

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8..2.1.11.5 Test requirement

After step 2 the UE shall keep its configuration and not access any of the DTCH traffic channels specified in either of the RADIO BEARER SETUP message. It shall transmit an RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause".

8..2.1.12 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.1.12.1 Definition

8..2.1.12.2 Conformance requirement

The UE shall keep its old configuration when it receives a RADIO BEARER SETUP message, which includes the spare value in the mandatory IE " DRX indicator" with criticality defined as "Reject". It shall then transmit a RADIO BEARER SETUP FAILURE message which is set to "protocol error" in IE " failure cause" and also contains value "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.12.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if the received a RADIO BEARER SETUP message, which includes the spare value in the mandatory IE " DRX indicator" with criticality defined as "Reject".

8..2.1.12.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCHCELL_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state, after the test operator makes an outgoing packet-switched data call. The SS transmits a RADIO BEARER SETUP message to the UE which includes the spare value in the mandatory IE " DRX indicator" with criticality defined as "Reject". The UE shall keep the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. The value "protocol error" shall be set in IE " failure cause" and also value "Information element value not comprehended" set in IE " Protocol error cause".

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~—←~~		~~RADIO BEARER SETUP~~	~~SS sends this message which contains an error in the IE "DRX Indicator".~~
~~2~~	~~—→~~		~~RADIO BEARER SETUP FAILURE~~	~~The UE does not change the configuration.~~

~~Specific Message Contents~~

~~RADIO BEARER SETUP~~

~~The contents of RADIO BEARER SETUP message in this test case is identical the message sub-type indicated by "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.the default contents clause of layer 3 messages for RRC tests. The following exceptions should be applied:~~

~~Information Element~~	~~Value/remark~~
~~DRX indicator~~	~~spare value~~

~~RADIO BEARER SETUP FAILURE~~

~~Information Element~~	~~Value/remark~~
~~Message Type~~	
~~Failure cause~~	
~~- Failure cause~~	~~Protocol error~~
~~- Protocol error information~~	
~~- Protocol error cause~~	~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

~~8..2.1.12.5 Test requirement~~

~~After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE " failure cause" and is set to "Information element value not comprehended" in IE " Protocol error cause".~~

8.~~.~~2.1.1~~0~~3 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success

8.2.1.1~~0~~3.1 Definition

8.~~.~~2.1.1~~0~~3.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 ~~-~~clause 8.2.1

8.~~.~~2.1.1~~0~~3.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8.~~.~~2.1.1~~0~~3.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE-: PS-DCCH~~CELL~~_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state, after SS prompts the test operator to initiate a packet-switched data call. The SS transmits a RADIO BEARER SETUP message -to the UE after it sets up L1 including the start of tx/rx. After the UE receives this message, it configures them and establishes the required radio bearers. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	
3				To confirm the communication

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical the message sub-type indicated by "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.~~the default contents clause of layer 3 messages for RRC tests.~~

8.~~.~~2.1.10~~3~~.5 Test requirement

After step2 the UE shall communicate with the SS using the radio bearer indicated in RADIO BEARER SETUP message. Particularly, SS should be able to receive packet data using a terminal equipment (TE) attached to the UE.~~,~~.

8.~~.~~2.1.11~~4~~ Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.1.11~~4~~.1 ~~————————~~Definition

8.~~.~~2.1.11~~4~~.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message which includes an -unsupported configuration and then transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, which sets value "configuration unacceptable" in IE_"-failure cause".

Reference

3GPP TS 25.331 -clause 8.2.1

8.~~.~~2.1.11~~4~~.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message in case of it receiving a RADIO BEARER SETUP message, which includes parameters of an unsupported configuration.

8.~~.~~2.1.11~~4~~.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE: CS-DCCH~~CELL~~_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message with a stated frequency that cannot be supported by the UE. After the UE receives this message, it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC setting value "configuration unacceptable" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	This message includes an unsupported configuration for the UE.
2		→	RADIO BEARER SETUP FAILURE	The UE shall transmit this message using RLC-AM mode and do not change the current configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex A~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 0 Not Present

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.1.1~~4~~5 Test requirement

After step 1 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE "failure cause".

8.2.1.1~~5~~ Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)

8.2.1.1~~5~~.1 ~~Definition~~

8.2.1.1~~5~~.2 Conformance requirement

The UE shall attempt to revert to the old configuration when the UE fails to configure the new radio bearer by the T312 expiry. It shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC containing value "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8.~~.~~2.1.12~~5~~.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE fails to configure the new radio bearer when it detects physical channel failure, followed by the T312 expiry.

8.~~.~~2.1.12~~5~~.4 Method of test

Initial Condition

System Simulator~~.~~: 1 cell

UE~~.~~: PS-DCCH~~CELL~~_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message to the UE and does not configure the new radio bearer. After T312 expiry, ~~-~~the UE shall revert to the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. The content of the message shall indicate "physical channel failure" in IE_"~~-~~failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	The SS does not configure a new radio bearer.
2				The UE does not configure a new radio bearer but reverts to the old configuration.
3		→	RADIO BEARER SETUP FAILURE	

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical the message sub-type indicated by "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.~~.~~2.1.12~~5~~.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE_"~~-~~failure cause".

8.~~.~~2.1.13~~6~~ Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and reversion failure)

8.2.1.13~~6~~.1 ~~————~~Definition

8.~~.~~2.1.13~~6~~.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer establishment procedure.

Reference

3GPP TS 25.331- clause 8.2.1

8.~~.~~2.1.13~~6~~.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot establish the new radio bearer for the L1 configuration and subsequently fail to revert to the old configuration.

8.~~.~~2.1.13~~6~~.4 Method of test

Initial Condition

System Simulator~~-~~: 2 cells- Cell 1 is active, Cell 2 is inactive

UE~~-~~: PS-DCCH~~CELL~~_FACH(state 6-8) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_FACH state in cell 1.The SS begins to broadcast the BCCH in cell 2 but with a transmission level lower than that for cell 1. It then transmits a RADIO BEARER SETUP message to the UE from cell 1.Then the SS deletes the old downlink channel configuration after sending this message. This causes the UE to fail to configure L1 and could not revert to the old configuration. The UE shall find the presence of cell 2 and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message. The message shall include the IE_"U-RNTI" and sent on the uplink CCCH. The SS responds with an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS transmits the BCCH in cell 2, but with a power level lower that that in cell 1.
2		←	RADIO BEARER SETUP	The SS does not configure the new radio bearer and instead delete the old configuration.
3				The UE cannot configure a new radio bearer and cannot revert to old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find the presence of cell2It shall then transmit this message including its assigned U-RNTI in the IE_"U-RNTI".
5		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.~~the default contents of layer 3 messages for RRC tests.~~

RRC CONNECTION RE-ESTABLISHMENT REQUEST

Information Element	Value/remark
U-RNTI	Set to assigned UE U-RNTI in RRC CONNECTION SETUP message.
Protocol error indication	FALSE

RRC CONNECTION RE-ESTABLISHMENT COMPLETE

Information Element	Value/remark
Radio bearer uplink ciphering activation time info	Not Present
RB with PDCP information list - RB with PDCP information list	Not Present

8.~~.~~2.1.13~~6~~.5 Test requirement

After step 3 the UE shall find ~~the~~ presence of ~~cell~~ 2, which is suitable for camping. It shall then enter CELL_FACH state and transmit a RRC CONNECTION RE-ESTABALISHMENT REQUEST message to prevent the RRC connection from being lost.

After step 6 the UE shall re-establish an RRC connection, using the new TFCS settings specified in RRC CONNECTION RE-ESTABLISHMENT message

8.~~.~~2.1.14~~7~~ Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

~~8.2.1.17~~8.2.1.14.1 ~~———————~~Definition

8.~~.~~2.1.14~~7~~.2 Conformance requirement

~~The UE shall keep its old configuration, when it receives another RADIO BEARER SETUP message before it can complete the configuration of the radio bearer according to the first RADIO BEARER SETUP message.~~ If the UE is reconfiguring itself after receiving a radio bearer message other than RADIO BEARER SETUP message, and when the UE subsequently receive a RADIO BEARER SETUP message, ~~T~~the UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with value "Incompatible simultaneous reconfiguration" set in IE "failure cause".

Reference

3GPP TS 25.331 ~~clause~~ 8.2.1

8.~~.~~2.1.14~~7~~.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE receives ~~another~~ a RADIO BEARER SETUP message, before the UE configures the radio bearer according to an earlier ~~RADIO BEARER SETUP~~ message.

8.~~.~~2.1.14~~7~~.4 Method of test

Initial Condition

System Simulator~~:~~: 1 cell

UE~~:~~: PS-DCCT+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits ~~a RADIO BEARER SETUP~~a ~~message~~, RADIO BEARER RECONFIGURATION message~~requesting the UE to setup radio bearers using DPCH physical channels~~. The activation time of this event is specified to be 255 frames from the SS's current CFN. However, SS sends ~~another~~ a RADIO BEARER SETUP message before 255 frames has passed. The UE shall then abandon its current reconfiguration operation, and keep the old configuration. ~~, and~~Finally, the UE

transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. This message shall contain the value “Incompatible simultaneous reconfiguration” in IE ”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION~~SETUP~~	Including IE ”Uplink DPCH info”
2		←	RADIO BEARER SETUP	The SS send this message before the expiry of activation time specified in the message of step 1.
3		→	RADIO BEAER SETUP FAILURE	The UE does not change the configuration and transmit this message on its uplink DCCH using the same RLC-AM mode radio bearer before step 1.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case are~~is~~ identical as “Packet to CELL_DCH from CELL_FACH in PS“ as found in Annex A with the following exceptions:~~to those in the default contents of layer 3 messages for RRC tests. Information element(s) to be changed are listed below:~~

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

~~RADIO BEARER SETUP (for Step 2)~~x

For this message, use the message sub-type entitled “Packet to CELL_DCH from CELL_FACH in PS” in the default message content. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	~~Current CFN-[current CFN mod 8 + 8]~~Not present

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.~~.~~2.1.1~~4~~7.5 Test requirement

After step 2 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE ”failure cause”.

8.~~.~~2.1.1~~5~~8 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.1.1~~5~~8.1 ~~————————~~Definition

8.~~.~~2.1.1~~5~~8.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message, which includes the spare value in the mandatory IE ”~~-~~DRX indicator” having criticality defined as “Reject”. It shall transmit a RADIO BEARER SETUP FAILURE message which set value “protocol error” in IE ”~~-~~failure cause” and also value “Information element value not comprehended” in IE ”~~-~~Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.158.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER SETUP message, with a spare value in the mandatory IE "DRX indicator" and having criticality defined as "Reject".

8.2.1.158.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH~~CELL~~_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in CELL_FACH state. The SS transmits a RADIO BEARER SETUP message to the UE which includes a spare value in the mandatory IE "DRX indicator" with criticality defined as "Reject". The UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. This message shall specify "protocol error" in IE "failure cause" and also set the value "Information element value not comprehended" in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
2		→	RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" as found in Annex ~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.1.158.5 Test requirement

After step 1 the UE shall keep its old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. The message shall indicate the reason of failure as "protocol error" in IE "failure cause" and set the value "Information element value not comprehended" in IE "Protocol error cause".

8.~~.~~2.1.16~~9~~ Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Success

8.2.1.16~~9~~.1 ~~————————~~Definition

8.~~.~~2.1.16~~9~~.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 ~~-~~clause 8.2.1

8.~~.~~2.1.16~~9~~.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8.~~.~~2.1.16~~9~~.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: PS-DCCH~~CELL~~_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state, after the test operator is being prompted to make an outgoing packet-switched call. The SS transmits a RADIO BEARER SETUP message to the UE after it sets up L1 including the start of tx/rx. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	
3				To confirm the proper establishment of the new radio bearer by checking the packet data exchanged between the SS and a TE attached to the UE.

Specific Message Contents

RADIO BEARER SETUP

For this message, use the message sub-type entitled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A ~~the default message content~~.

8.~~.~~2.1.16~~9~~.5 Test requirement

After step 2 the UE shall communicate with the SS using the new radio bearer~~-~~, this can be confirmed by the exchange of packet data between a terminal equipment (TE) attached to the UE and the SS,

8..2.1.20 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)

8.2.1.20.1 Definition

8..2.1.20.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message which includes an unsupported configuration and it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC setting the value "configuration unacceptable" into IE " failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.20.3 Test purpose

To confirm that the UE keeps its original configuration and transmits a RADIO BEARER SETUP FAILURE message when it receives a RADIO BEARER SETUP message indicating an unsupported configuration.

8..2.1.20.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCHCELL_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message specifying a frequency which is not supported by the UE. After the UE receives this message, it transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE " failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	Including the unsupported configuration for the UE.
2		→	RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical as "Packet to CELL_FACH from CELL_FACH in PS" as found in Annexto those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	63947
- UARFCN downlink(Nd)	Not present

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration unacceptable
Other information element	Not checked

8..2.1.20.5 Test requirement

After step 1 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC and set value "configuration unacceptable" in IE " failure cause".

8..2.1.21 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.1.21.1 Definition

8..2.1.21.2 Conformance requirement

If the UE is reconfiguring itself after receiving a message, and when the UE subsequently receive a RADIO BEARER SETUP message, the The UE shall keep its old configuration when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message and the UE shall transmit a RADIO BEAER SETUP FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.21.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER RECONFIGURATION SETUP message.

8..2.1.21.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER SETUP message to the UE before the UE configures the radio bearer the UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	Including IE "Uplink DPCH info"
2		←	RADIO BEARER SETUP	The SS send this message before the expiry of activation time specified in the message of step 1.Message includes IE "PRACH info (for RACH)"
3		→	RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

areisas "Packet to CELL_FACH from CELL_FACH in PS" as found in Annex with the following exceptions:to those in the default contents of layer 3 messages for RRC tests. Information element(s) to be changed are listed below:RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8..2.1.21.5 Test requirement

After step 2 the UE shall keep its configuration and transmit an RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause".

8..2.1.22 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.1.22.1 Definition

8..2.1.22.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message, which includes a spare value for the mandatory IE " DRX indicator" having criticality defined as "Reject". It shall then transmit a RADIO BEARER SETUP FAILURE message stating the reason "protocol error" in IE " failure cause" and also set value "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.22.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER SETUP message specifying a spare value in the mandatory IE " DRX indicator"

8..2.1.22.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCHCELL_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

~~Test Procedure~~

~~The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message to the UE and includes the spare value in the mandatory IE " DRX indicator". The UE shall keep the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value "protocol error" in IE " failure cause". The error type "Information element value not comprehended" shall also be indicated in IE " Protocol error cause".~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~←~~		~~RADIO BEARER SETUP~~	
~~2~~	~~→~~		~~RADIO BEARER SETUP FAILURE~~	~~The UE does not change the configuration.~~

~~Specific Message Contents~~

~~RADIO BEARER SETUP~~

~~The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type "Packet to CELL_FACH from CELL_FACH in PS ", which is found in Annex A the default contents clause of layer 3 messages for RRC tests with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~DRX indicator~~	~~spare value~~

~~RADIO BEARER SETUP FAILURE~~

~~The expected content of RADIO BEARER SETUP FAILURE message is shown below:~~

~~Information Element~~	~~Value/remark~~
~~Message Type~~	
~~Failure cause~~	
~~- Failure cause~~	~~Protocol error~~
~~- Protocol error information~~	
~~- Protocol error cause~~	~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

~~8..2.1.22.5 Test requirement~~

~~After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC setting "protocol error" in IE " failure cause" and setting "Information element value not comprehended" in IE " Protocol error cause".~~

8.2.1.17 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: success (Subsequently received)

8.2.1.17.1 Definition

8.2.1.17.2 Conformance requirement

If the UE receives a RADIO BEARER SETUP message before the UE configures the radio bearer according to the previous RADIO BEARER SETUP message, the UE shall ignore the new RADIO BEARER SETUP message and configure according to the previous RADIO BEARER SETUP message. Finally, the UE shall transmit RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.17.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER SETUP message before the UE configures the radio bearer according to a previous RADIO BEARER SETUP message, it ignore the new RADIO BEARER SETUP message and configures according to the previous RADIO BEARER SETUP message received.

8.2.1.17.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-DCCH~~CELL~~_DCH(state 6-5) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. SS transmits a RADIO BEARER SETUP message to the UE before the UE configures the radio bearer according to the RADIO BEARER SETUP message prior to this new message. The UE ignores the new RADIO BEARER SETUP message and configures according to the former RADIO BEARER SETUP message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO- BEARER SETUP	Including IE "Uplink DPCH info"
2		←	RADIO- BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1.
3		→	RADIO BEARER SETUP COMPLETE	The UE ignores the- RADIO BEARER SETUP message in step 2 and confirms configuration according to the -RADIO BEARER SETUP message in step 1.

Specific Message Contents

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as "The other of ~~S~~speech in CS" found in Annex A, with the exception of the following Information Elements:

RADIO BEARER SETUP (Step 1)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER SETUP (Step 2)

For RADIO BEARER SETUP in step 2, use the message sub-type indicated as "The other of speech in CS~~Packet to CELL_DCH from CELL_DCH in PS~~" found in Annex A, with the exception of the following

Information Element	Value/remark
Activation Time	Not Present

8.2.1.17.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER SETUP message in step 1.

8.2.1.24 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success (Subsequently received)

8.2.1.24.1 Definition

8.2.1.24.2 Conformance requirement

If the UE receives a RADIO BEARER SETUP message before the UE configures the radio bearer according to the previous RADIO BEARER SETUP message, the UE shall ignore the new RADIO BEARER SETUP message and configure according to the previous RADIO BEARER SETUP message. Finally, the UE shall transmit RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.24.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER SETUP message before the UE configures the radio bearer according to a previous RADIO BEARER SETUP message, it ignore the new RADIO BEARER SETUP message and configures according to the previous RADIO BEARER SETUP message received.

8.2.1.24.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. SS transmits a RADIO BEARER SETUP message to the UE before the UE configures the radio bearer according to the RADIO BEARER SETUP message prior to this new message. The UE ignores the new RADIO BEARER SETUP message and configures according to the former RADIO BEARER SETUP message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←—	RADIO BEARER SETUP	Message includes IE "PRACH info (for RACH)"
2		←—	RADIO BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1.
3		—→	RADIO BEARER SETUP COMPLETE	The UE ignores the RADIO BEARER SETUP message in step 2 and confirms configuration according to the RADIO BEARER SETUP message in step 1.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

For this message, use the message sub-type entitled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A. Information element(s) to be changed are listed below:

~~Information Element~~	~~Value/remark~~
~~Activation Time~~	~~[256+Current CFN-[current CFN mod 8 + 8]]MOD 256~~

~~RADIO BEARER SETUP (Step 2)~~

~~For this message, use the message sub-type entitled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A. Information element(s) to be changed are listed below:~~

~~Information Element~~	~~Value/remark~~
~~Activation Time~~	~~Not Present.~~

~~8.2.1.24.5 Test requirement~~

~~After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER SETUP message in step 1.~~

8.2.1.18 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.1.18.1 Definition

8.2.1.18.2 Conformance requirement

If the UE receives a RADIO BEARER SETUP message before the UE configures the radio bearer according to the previous RADIO BEARER SETUP message, the UE shall ignore the new RADIO BEARER SETUP message and configure according to the previous RADIO BEARER SETUP message. Finally, the UE shall transmit RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.18.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER SETUP message before the UE configures the radio bearer according to a previous RADIO BEARER SETUP message, it ignore the new RADIO BEARER SETUP message and configures according to the previous RADIO BEARER SETUP message received.

8.2.1.18.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH~~CELL~~_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message, requesting the UE to setup radio bearers using DPCH physical channels. The activation time of this event is specified to be 255 frames from the SS's current CFN. However, SS sends another RADIO BEARER SETUP message before 255 frames has lapsed. The UE ignores the new RADIO BEARER SETUP message and configures according to the former RADIO BEARER SETUP message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO- BEARER SETUP	Including IE "Uplink DPCH info"
2		←	RADIO- BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1.
3		→	RADIO BEAER SETUP COMPLETE	The UE ignores the RADIO BEARER SETUP message in step 2 and confirms configuration according to the RADIO BEARER SETUP message in step 1.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

For this message, use the message sub-type entitled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A

RADIO BEARER SETUP (for Step 2)

For this message, use the message sub-type entitled "Packet to CELL_DCH from CELL_FACH in PS" in ~~the~~ Annex A~~default message content~~. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.1.18.5 Test requirement

After step 2 the UE shall keep its configuration and transmit a RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER SETUP message in step 1.

~~8.2.1.26 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Success (Subsequently received)~~

~~8.2.1.26.1 Definition~~

~~8.2.1.26.2 Conformance requirement~~

~~If the UE receives a RADIO BEARER SETUP message before the UE configures the radio bearer according to the previous RADIO BEARER SETUP message, the UE shall ignore the new RADIO BEARER SETUP message and configure according to the previous RADIO BEARER SETUP message. Finally, the UE shall transmit RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.~~

~~Reference~~

~~3GPP TS 25.331 clause 8.2.1~~

~~8.2.1.26.3 Test purpose~~

~~To confirm that if the UE receives a new RADIO BEARER SETUP message before the UE configures the radio bearer according to a previous RADIO BEARER SETUP message, it ignore the new RADIO BEARER SETUP message and configures according to the previous RADIO BEARER SETUP message received.~~

8.2.1.26.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH_FACH(state 6-8) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. SS transmits a RADIO BEARER SETUP message to the UE before the UE configures the radio bearer according to the RADIO BEARER SETUP message prior to this new message. The UE ignores the new RADIO BEARER SETUP message and configures according to the former RADIO BEARER SETUP message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER SETUP COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	Message includes IE "PRACH info (for RACH)"
2		←	RADIO BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1.
3		→	RADIO BEARER SETUP COMPLETE	The UE ignores the second RADIO BEARER SETUP message and confirms configuration according to the first RADIO BEARER SETUP message.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

For this message, use the message sub-type entitled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A

RADIO BEARER SETUP (Step 2)

For this message, use the message sub-type entitled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

8.2.1.26.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER SETUP message in step 1.

8.2.2 Radio Bearer Reconfiguration

8.2.2.1 Radio Bearer Reconfiguration (Hard handover) from CELL_DCH to CELL_DCH: Success

8.2.2.1.1 Definition

8.2.2.1.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer and L1 according to the RADIO BEARER RECONFIGURATION message, which specifies a hard handover to another radio frequency. After executing the reconfiguration, the UE shall be able to communicate with the UTRAN on the newly ~~configred~~configured radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.1.3 Test purpose

To confirm that the UE reconfigures a new radio bearer by following a RADIO BEARER RECONFIGURATION message, which indicates a hard handover to another radio frequency.

8.2.2.1.4 Method of test

Initial Condition

System Simulator: 2 cells – cell 1 and cell 6 are active. The CPICH_Ec/No and CPICH RSCP of cell 4 are improved to –15dB and –70dBm respectively. The $Q_{rxlevmin}$ and $Q_{rxqualmin}$ values in SYSTEM INFORMATION BLOCK TYPE 3 and 4 messages of cell 6 is changed to –90dBm and –20dB respectively

UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which commands that hard handover to cell 6 be performed. The UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Hard handover to cell 6,
2				UE shall suspend all uplink transmissions to cell 1 and shall commence the reconfiguration of the affected physical channel parameters to that of cell 6.
3	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message sub-type titled “Packet to CELL_DCH from CELL_DCH in PS“ in Annex A, with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
Downlink information for each radio links	Same downlink UARFCN as used for cell 6
- Primary CPICH info	
- Primary Scrambling Code	350

8.2.2.1.5 Test requirement

After step 1 the UE shall reconfigure the radio links with the SS.

After step 3 the UE shall change its physical channel configuration and communicate with the SS on the DCCH and DTCH of cell 6.

8.2.2.2 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.2.2.1 Definition

8.2.2.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE "failure cause

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.2.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message includes unsupported configuration parameters.

8.2.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including unsupported configuration by the UE
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" as found in Annex~~to those in the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984. Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" Configuration unacceptable Not checked

8.2.2.2.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the value "configuration unacceptable" set in IE "failure cause".

8.2.2.3 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.2.3.1 Definition

8.2.2.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received RADIO BEARER RECONFIGURATION ~~massage~~message and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to the RADIO BEARER RECONFIGURATION message received previously.

8.2.2.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new radio bearer parameters but it does not reconfigure L1 according to the settings found in the message. The UE shall revert to the old configuration. Then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting value "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				SS does not reconfigure L1 parameters to reflect the radio bearer reconfigurations specified in the message.
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE shall detect a failure to reconfigure the new radio bearer, and send this message using the old radio bearer ~~conflguration~~configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as “Packet to CELL_DCH from CELL_DCH in PS“ as found in Annex A.

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	“RADIO BEARER RECONFIGURATION FAILURE”
Failure cause	Physical channel failure
Other information element	Not checked

8.~~.~~2.2.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC setting value “physical channel failure” in IE ”~~-~~failure cause”.

8.~~.~~2.2.4 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH~~-~~: Failure (Physical channel failure and reversion failure)

8.2.2.4.1 ~~————————~~Definition

8.~~.~~2.2.4.2 Conformance requirement

~~-~~The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331~~-~~ clause 8.2.2

8.~~.~~2.2.4.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot reconfigure the new radio bearer, and a subsequent failure to revert to the old configuration.

8.~~.~~2.2.4.4 Method of test

Initial Condition

System Simulator~~-~~: 2 cells - Cell 1 is active, Cell 2 is inactive

UE-: PS-DCCH+DTCH~~CELL~~_DCH(state 6-7) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in a cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters. The SS does not reconfigure L1 in accordance to the settings in the message and delete all radio bearer related contexts in cell 1. At the same time, SS begins to broadcast the BCCH in a cell 2. The UE discovers that it cannot reconfigure the new radio bearer and wants to revert to the old configuration. The UE shall find cell 2 and transmit to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message ~~-~~which includes the IE_"U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which specifies a new TFCS according to the new transport channel allocated. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the new radio bearer and delete the old configuration in cell 1.
3				The UE fails to reconfigure a new radio bearer.
4		←	BCCH	The SS transmits a BCCH in a cell 2 and delete the old radio bearer.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds cell ~~-~~2 and transmits this message which includes the IE_"U-RNTI" it was previously assigned.
6		←	RRC CONNECTION RE-ESTABLISHMENT	This message includes a new TFCS according to the new transport channel indicated in RRC CONNECTION RE-ESTABLISHMENT message.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as “Packet to CELL_DCH from CELL_DCH in PS“ as found in Annex.~~None~~

8.~~-~~2.2.4.5 Test requirement

After step 4 the UE shall detect the presence of cell ~~-~~2, enters CELL_FACH state, and transmit RRC CONNECTION RE-ESTABLISHMENT to attempt to keep the current RRC connection.

After step 7 the UE shall successfully re-establish an RRC connection.

8.~~-~~2.2.5 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.5.1 ~~————————~~Definition

8.2.2.5.2 Conformance requirement

If the UE is configuring itself after receiving a radio bearer message other than RADIO BEARER RECONFIGURATION message, and when the UE subsequently receive a RADIO BEARER RECONFIGURATION message, the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE

message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE ”failure cause”.

~~The UE shall keep its old configuration when the UE receives another RADIO BEARER RECONFIGURATION message before the UE can configure the radio bearer according to an earlier RADIO BEARER RECONFIGURATION message. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC setting “Incompatible simultaneous reconfiguration” in IE”failure cause”.~~

Reference

3GPP TS 25.331 clause 8.2.2

8.2.5.3 Test purpose

To confirm that the UE keeps its configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message when the UE receives ~~another~~ A RADIO BEARER RECONFIGURATION message before the UE can complete the configuration of the radio bearer indicated in an earlier ~~RADIO BEARER RECONFIGURATION~~ message.

8.2.5.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the requested radio bearer(s), the UE keeps the old configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall set value “Incompatible simultaneous reconfiguration” in IE ”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER ~~RECONFIGURATION~~SETUP	Including IE ”Uplink DPCH info”
2		←	~~RADIO BEARER~~RADIO BEARER RECONFIGURATION	Sent before the “activation time” in step 1 has elapsed
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER ~~RECONFIGURATION~~ SETUP (Step 1)

~~The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:~~For RADIO BEARER SETUP in step 1, use the message sub-type indicated as “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A.

~~Information Element~~	~~Value/remark~~
~~Activation Time~~	~~Current CFN [current CFN mod 8 + 8]~~

RADIO BEARER RECONFIGURATION (Step 2)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions as “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A with following exceptions:

Information Element	Value/remark
Activation Time	Not Present.

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.5.5 Test requirement

After step 2 the UE shall keep its configuration and transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which contains the value "Incompatible simultaneous reconfiguration" set in IE "failure cause".

8.2.2.6 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception)

8.2.2.6.1 Definition

8.2.2.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message, which includes the spare value in the mandatory IE "DRX indicator" having criticality defined as "Reject". The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to "protocol error" in IE "failure cause" and is set to "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.6.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives a RADIO BEARER RECONFIGURATION message containing a spare value in the mandatory IE "DRX indicator" with criticality defined as "Reject".

8.2.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the spare value in the mandatory IE "DRX indicator" which criticality is defined as "Reject". The UE keeps the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE "failure cause" and is set to "Information element value not comprehended" in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	The message contains ~~a~~an illegal error in a mandatory IE.
2	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A with following exceptions~~to the corresponding message found in the default contents of layer 3 messages for RRC tests~~, with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.2.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC stating the reason "protocol error" in IE "~~failure cause~~". The message shall contain the value "Information element value not comprehended" in IE "~~Protocol error cause~~".

8.2.2.7 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH~~:~~ Failure (Suspension of signalling bearer)

8.2.2.7.1 ~~————————~~Definition

8.2.2.7.2 Conformance requirement

The UE shall revert to the old configuration prior to the reception of RADIO BEARER RECONFIGURATION message, which includes IE "RB suspend/resume" specified as "Suspend", and transmit a RADIO BEARER RECONFIGURATION FAILURE message to UTRAN

Reference

3GPP TS 25.331 ~~clause~~ 8.2.2

8.2.2.7.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to a ~~RADIO BEARER RECONFIGURATION~~ message.

8.2.2.7.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: PS-DCCH+DTCH~~CELL~~_DCH(state 6-7) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE ~~-~~which specifies the suspension of a signalling radio bearer to be reconfigured. The UE shall revert to the old configuration. Then the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the IE_"~~-~~failure cause" set to "configuration unacceptable".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Specifies a signalling radio bearer to be suspended.
2	→		RADIO BEARER RECONFIGURATION FAILURE	The UE shall revert to the old configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A ~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list RB information to reconfigure l -RB identity -RB suspend/resume	 3 "Suspend"

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" Configuration unacceptable Not checked

8.2.2.7.5 Test requirement

After step_2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC specifying the reason "configuration unacceptable~~-~~" in IE_"~~-~~failure cause".

8.2.2.8 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success

8.2.2.8.1 ~~———————~~Definition

8.2.2.8.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer in case of a transition from CELL_DCH to CELL_FACH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.8.3 Test purpose

To confirm that the UE establishes the reconfigured radio bearer(s) using common physical channel, after a RADIO BEARER RECONFIGURATION message has been received from the SS.

8.2.2.8.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters and sets up L1 including the start of tx/rx. The UE reconfigures the new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1	←		RADIO BEARER RECONFIGURATION	
2				Reconfiguration of radio bearer
3	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_DCH from CELL_FACH in PS” in Annex A.

8.2.2.8.5 Test requirement

After step 1 the UE shall reconfigure the radio links with the SS.

After step 3 the UE shall change its radio bearer configuration and communicate with the SS on the DCCH and DTCH, using the common physical channel allocated in RADIO BEARER RECONFIGURTION message.

~~8.2.2.9 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)~~

~~8.2.2.9.1 Definition~~

~~8.2.2.9.2 Conformance requirement~~

~~The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “configuration unacceptable” in IE “failure cause~~

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.9.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message indicates an unsupported configuration parameters.

8.2.2.9.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE " failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Including unsupported configuration by the UE
2	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A to the corresponding message found in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984. Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" Configuration unacceptable Not checked

8.2.2.9.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason "configuration unacceptable" in IE " failure cause".

8.2.2.~~10~~9 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Failure (Physical channel failure~~-~~)

8.2.2.~~10~~9.1 ~~————————~~Definition

8.2.2.~~10~~9.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER CHANNEL RECONFIGURATION message, during the transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS 25.331 ~~-~~clause 8.2.2

8.2.2.~~10~~9.3 Test purpose

To confirm that the UE initiate a cell reselection after encountering a physical channel failure, when attempting to transit from CELL_DCH to CELL_FACH state during the execution of radio bearer reconfiguration procedure. The UE is first instructed to select the cell implied in the RADIO BEARER RECONFIGURATION message, but discover a failure as the indicated cell is not present.

8.2.2.~~10~~9.4 Method of test

Initial Condition

System Simulator~~-~~: 2 cells – Cell 1 is active and cell 2 is inactive

UE~~-~~: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. SS starts to transmit the BCCH for cell 2, but with a power level lower that of cell 1. Following this, the SS send a RADIO BEARER RECONFIGURATION message to the UE, which includes relevant information about the target cell's P-CPICH. SS selects an unused primary scrambling code for P-CPICH, which neither matches the code used by cell 1 nor cell 2. This should lead to the detection of a physical channel failure in the UE. The UE shall trigger a cell reselection and initiate a cell update procedure if it is able to access cell 2. When SS receives a CELL UPDATE message in cell 2 on uplink CCCH, it replies with CELL UPDATE CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS begin to broadcast the BCCH data in cell 2, but with a power level lower than in cell 1.
2	←		RADIO BEARER RECONFIGURATION	The message includes IE "Primary CPICH Info" and set the IE "Primary Scrambling Code" to an unknown value (not used by cell 1 or cell 2).
3				UE shall detect a "physical channel failure" condition and then trigger a cell reselection procedure.
4	→		CELL UPDATE	After successfully camping onto cell 2, UE shall initiate a cell update procedure. The updating cause shall be set to "cell reselection"
5	←		CELL UPDATE CONFIRM	Contains cell

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A ~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Downlink information for each radio link - Primary CPICH Info - Primary Scrambling Code	 Set to an unused code different from the 3 cells defined.

CELL UPDATE

Information Element	Value/remark
U-RNTI Cell Update Cause	The assigned U-RNTI indicated In RRC CONNECTION SETUP message Cell Reselection

8.2.2.~~10~~9.5 Test requirement

After step 3, the UE shall discover the presence of cell 2, enter CELL_FACH and then perform a cell updating procedure by the transmission of CELL UPDATE using RLC-TM mode on CCCH. The UE shall transit to CELL_PCH state to monitor the PCCH channel after the reception of CELL UPDATE CONFIRM message.

~~8.2.2.11 Radio Bearer Reconfigure from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)~~

~~8.2.2.11.1 Definition~~

~~8.2.2.11.2 Conformance requirement~~

~~If the UE is configuring itself after receiving a message, and when the UE subsequently receive a RADIO BEARER message,the The UE shall keep its old configuration when the UE receives another RADIO BEARER RECONFIGURATION message before it completes the re-configuring the radio bearer according to an earlier RADIO BEARER RECONFIGURATION message. The UE shall transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "incompatible simultaneous reconfiguration" in IE"failure cause".~~

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.11.3 Test purpose

To confirm that the UE keeps its current radio bearer configurations and transmits an RADIO BEARER RECONFIGURATION FAILURE message when the UE receives another RADIO BEARER RECONFIGURATION message before it is able to complete an earlier reconfiguration request.

8.2.2.11.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer the UE keeps the old configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including IE "Uplink DPCH info"
2		←	RADIO BEARER RECONFIGURATION	
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

The contents of RADIO BEARER RECONFIGURATION messages in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests with the following exceptions:

RADIO BEARER RECONFIGURATION (Step 1)DFA

Information Element	Value/remark
Activation Time	Current CFN [current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION (Step 2)as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A the corresponding message found in the default contents of layer 3 messages for RRC tests

Information Element	Value/remark
Activation Time	Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RRC STATUS"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.11.5 Test requirement

After step 2 the UE shall keep its exiting radio bearer configuration and transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RL, with the value "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.2.12 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.2.12.1 Definition

8.2.2.12.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes the spare value in the mandatory IE " DRX indicator", possessing a criticality level defined as "Reject". It shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to "protocol error" in IE " failure cause" and is also set to "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.12.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC to respond to an earlier RADIO BEARER RECONFIGURATION message, which applies a spare value in the mandatory IE " DRX indicator" having criticality defined as "Reject".

8.2.2.12.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes a spare value in the mandatory IE " DRX indicator". The UE keeps the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE " failure cause" and setting "Information element value not comprehended" in IE " Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	
2	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.2.12.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC with "protocol error" specified in IE " failure cause" and also "Information element value not comprehended" specified in IE " Protocol error cause".

8.2.2.13 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Failure (Suspension of signalling bearer)

8.2.2.13.1 Definition

8.2.2.13.2 Conformance requirement

The UE shall revert to the configuration prior to the reception of the RADIO BEARER RECONFIGURATION message which indicates suspension for an existing signalling radio bearer in IE "RB suspend/resume". It shall transmit a RADIO BEARER RECONFIGURATION FAILURE message to UTRAN

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.13.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE receives RADIO BEARER RECONFIGURATION message asking for the suspension of an existing signalling radio bearer.

8.2.2.13.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the IE "RB suspend/resume" set to "Suspend" for one signalling radio bearer. The UE shall revert to the old configuration. Then the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE " failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	The message requests for the suspension of a current available signalling radio bearer
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE shall revert to the old configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list RB information to reconfigure I -RB Identity -RB suspend/resume	 3 "Suspend"

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" configuration unacceptable Not checked

8.2.2.13.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC specifying "configuration unacceptable " in IE " failure cause".

8.2.2.1410 Radio Bearer Reconfiguration: from CELL_FACH to CELL_DCH: Success

8.2.2.1410.1 Definition

8.2.2.1410.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer in case of a transition from CELL_FACH to CELL_DCH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.1410.3 Test purpose

To confirm that the UE establishes a new radio bearer by following a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.1410.4 Method of test

Initial Condition

System Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new radio bearer parameters and sets up L1 including the start of tx/rx. The UE reconfigures the new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	This message includes IE "Uplink DPCH Info"
2				Reconfiguration of radio bearer
3	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_DCH~~FACH~~ from CELL_FACH~~DCH~~ in PS" in Annex A.

8.2.2.~~14~~10.5 Test requirement

After step 2 the UE shall change its radio bearer configuration and communicate with the SS on the DCCH and DTCH which are being carried by the DPCH physical channel resources.

8.2.2.~~15~~11 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.2.~~15~~11.1 ~~———————~~Definition

8.2.2.~~15~~11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE "failure cause

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.~~15~~11.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the RADIO BEARER RECONFIGURATION message received includes unsupported configuration parameters.

8.2.2.~~15~~11.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes unsupported configuration parameters of the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration unacceptable" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	The message includes an unsupported configuration for the UE
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~to those in the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.2.~~15~~11.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC stating "configuration unacceptable" in IE "failure cause".

8.2.2.~~16~~12 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.2.~~16~~12.1 ~~———————~~Definition

8.2.2.~~16~~12.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received RADIO BEARER RECONFIGURATION ~~massage~~message and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.~~16~~12.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to a -RADIO BEARER RECONFIGURATION message.

8.2.2.~~16~~12.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, -which includes the new radio bearer parameters and does not reconfigure L1. Therefore, the UE cannot reconfigure the new radio bearer and shall attempt to revert to the old configuration. Then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the value "physical channel failure" in IE_"-failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigures L1 including the start of tx/rx
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE fails to reconfigure a new radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.2.~~16~~12.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "physical channel failure" in IE_"-failure cause".

8.2.2.~~17~~13 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.2.~~17~~13.1 ~~———————~~Definition

8.2.2.~~17~~13.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.~~17~~3.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure, when the UE cannot reconfigure the new radio bearer following a failure to configure L1 parameters for the new radio bearer settings and also a reversion failure to the old configuration.

8.2.2.~~17~~13.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive

UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters but does not reconfigure L1 to cater to the new radio bearer settings. The UE cannot reconfigure the new radio bearer and wants to revert to the old configuration. But the SS does not configure the old radio bearer and begins to broadcast the BCCH in a cell 2 and stops broadcasting the BCCH in cell 1. Then the UE finds a new cell 2 and transmits to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes the IE "U-RNTI" on the uplink CCCH. The SS replies with an RRC CONNECTION RE-ESTABLISHMENT message, specifying a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the new radio bearer and delete the old configuration.
3				The UE shall detect a failure to reconfigure a new radio bearer, and start to revert to old configuration.
4		←	BCCH	The SS starts to transmit the BCCH in cell 2 and delete the old radio bearer settings in cell 1.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find cell 2 and transmits this message which includes the IE "U-RNTI" it possesses.
6		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

~~None~~ RADIO BEARER RECONFIGURATION

Use the same message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

8.2.2.~~17~~13.5 Test requirement

After step 4 the UE shall detect the presence of cell 2, enter CELL_FACH state, and attempt to perform RRC connection re-establishment procedure.

After step 7 the UE shall successfully re-establish an RRC connection, and be able to access the dedicated physical resources in cell 2.

8.2.2.~~18~~14 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.~~18~~14.1 ~~————————~~Definition

8.2.2.~~18~~4.2 Conformance requirement

If the UE is configuring itself after receiving a radio bearer message other than RADIO BEARER RECONFIGURATION message, and when the UE subsequently receive a RADIO BEARER RECONFIGURATION message, the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE ”failure cause”.

~~The UE shall keep its old configuration when the UE receives another RADIO BEARER RECONFIGURATION message before it completes the reconfiguration of the new radio bearers specified in RADIO BEARER RECONFIGURATION message. Following this, the UE shall transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with value “incompatible simultaneous reconfiguration” set in IE” failure cause”.~~

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.~~18~~14.3 Test purpose

To confirm that the UE keeps its configuration and transmits ~~an~~ a RADIO BEARER RECONFIGURATION FAILURE message when the UE receives ~~another~~ a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous ~~RADIO BEARER RECONFIGURATION~~ message.

8.2.2.~~18~~14.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL_~~FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the completion of a radio bearer reconfiguration commanded earlier, the UE keeps the old configuration. The UE shall also transmit ~~an~~ a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration” in IE ”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER ~~RECONFIGURATION~~SETUP	Including IE "Uplink DPCH info"
2		←	RADIO BEARER RECONFIGURATION	Sent before the elapse of the "Activation Time" indicated in the previous ~~RADIO BEARER RECONFIGURATION~~ message.
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.

RADIO BEARER RECONFIGURATION (step 2)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.~~18~~14.5 Test requirement

After step 2 the UE shall keep its configuration and transmit ~~an~~a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.2.~~19~~15 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.2.~~19~~15.1 ~~———————~~Definition

8.2.2.~~19~~15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message, which includes the spare value in the mandatory IE "~~-~~DRX indicator" with criticality defined as "Reject". Then it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message setting "protocol error" in IE "~~-~~failure cause" and also setting "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.2

8.2.2.~~19~~15.3 Test purpose

To confirm that the UE transmits a RADIO BEARER ~~RECONFIGRATION FAILURE~~RECONFIGRATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER ~~RECONFIGURATION~~

~~message~~RECONFIGURATION message which includes the spare value in the mandatory IE ~~"~~DRX indicator", with criticality defined as "Reject".

8.2.2.~~19~~15.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the spare value in the mandatory IE ~~"~~DRX indicator". The UE shall keep the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "protocol error" in IE ~~"~~failure cause" and also set "Information element value not comprehended" in IE ~~"~~Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2		→	RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGRATION ~~-~~message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.2.~~19~~15.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER ~~RECONFIGRATION FAILURE~~RECONFIGRATION FAILURE message on the DCCH using AM RLC, which contain the cause "protocol error" in IE ~~"~~failure cause" and "Information element value not comprehended" in IE ~~"~~Protocol error cause".

8.2.2.~~20~~16 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Suspension of signalling bearer)

8.2.2.~~20~~16.1 ~~———————~~Definition

8.2.2.~~20~~16.2 Conformance requirement

The UE shall revert to ~~the configuration~~the configuration prior to the reception ~~of the~~of the RADIO BEARER RECONFIRGURATION message which specifies the suspension of an existing signalling radio bearer. It shall then transmit a RADIO BEARER RECONFIGURATION FAILURE message to UTRAN.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.2

8.2.2.~~20~~16.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer due to an inappropriate suspension request in RADIO BEARER RECONFIGURATION message.

8.2.2.~~20~~16.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE~~, which~~, which includes the IE_"RB suspend/resume" set to "Suspend" for one existing signalling radio bearer. The UE shall revert to the old configuration. Then the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "configuration unacceptable" in IE_"~~-~~failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	The message includes IE_"RB suspend/resume" for one of the signalling radio bearer.
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE shall revert to the old configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list RB information to reconfigure l -RB identity -RB suspend/resume	 2 Set to ~~the~~"Suspend"

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" configuration unacceptable Not checked

8.2.2.~~20~~16.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall contain the value "configuration unacceptable " in IE "failure cause".

8.2.2.~~21~~17 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success

8.2.2.~~21~~17.1 ~~————~~Definition

8.2.2.~~21~~17.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER ~~RECONFIGURATION message~~RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer and a transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.2

8.2.2.~~22~~17.3 Test purpose

To confirm that the UE establishes a new radio bearer by following a ~~RADIO BEARER~~RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.~~21~~17.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 2 ~~cells Cell~~cells Cell 1 is active, Cell 2 is inactive

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. SS begins to broadcast the BCCH of cell 2. The SS transmits a RADIO BEARER RECONFIGURATION message to the ~~UE which~~UE which includes the ~~new transport~~new transport channel parameter reconfigure for ~~transit .~~transit. The UE reconfigures the new transport cannel and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	RADIO BEARER RECONFIGURATION	~~including~~Including Primary CPICH Info for cell 2.
3				Reconfiguration of Transport channel
4		→	RADIO BEARER RECONFIGURATION COMPLETE	Received on the uplink DCCH of cell 2.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 2)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS“ in Annex A.

8.2.2.~~21~~17.5 Test requirement

After step 3 the UE shall transit from CELL_FACH to CELL_FACH in the another cell and communicate with the SS on the DCCH and DTCH using the modified transport channel configurations

~~8.2.2.22 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)~~

~~8.2.2.22.1 Definition~~

~~8.2.2.22.2 Conformance requirement~~

~~This procedure is used to handle the case of a failure to reconfigure radio bearer(s) or signalling link(s), following a detection of an unsupported configuration by the UE.~~

~~Reference~~

~~3GPP TS 25.331 clause~~25.331 clause ~~8.2.2~~

~~1. 8.2.2.22.3 Test purpose~~

~~To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message includes unsupported configuration parameters.~~

~~8.2.2.22.4 Method of test~~

~~Initial Condition~~

~~System Simulator :~~Simulator: ~~1 cell~~

~~UE :~~UE: PS-DCCH+DTCH~~CELL_FACH~~(state 6-11) as specified in clause 7.4 of TS 34.108

~~Test Procedure~~

~~The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which~~, which ~~includes unsupported configuration parameters for the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “configuration unacceptable” in IE ” failure cause”.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~←~~		~~RADIO BEARER RECONFIGURATION~~	~~Including unsupported configuration by the UE~~
~~2~~	~~→~~		~~RADIO BEARER RECONFIGURATION FAILURE~~	~~The UE does not change the radio bearer.~~

~~Specific Message Contents~~

~~RADIO BEARER RECONFIGURATION~~

~~The contents of RADIO BEARER RECONFIGURATION message in this test case is identical~~ as “Packet to CELL_FACH from CELL_FACH in PS” found in Annex A ~~to those in the default contents of layer 3 messages for RRC tests with the following exceptions:~~

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984. Not Present

RADIO BEARER RECONFIGURATIONBEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" Configuration unacceptable Not checked

8.2.2.22.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the value "configuration unacceptable" set in IE " failure cause".

8.2.2.2318 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Failure (Physical channel failure)

8.2.2.2318.1 Definition

8.2.2.2318.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 clause25.331 clause 8.2.2

8.2.2.2318.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to the RADIO BEARER RECONFIGURATION message received previously.

8.2.2.2318.4 Method of test

Initial Condition

System Simulator :Simulator: 3 cells Cell 1 is active, Cell 2 is inactive, Cell 3 is inactive

UE :UE: PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a RADIO BEARER RECONFIGURATION message, resulting in the UE to attempt to transit from CELL_FACH in cell 1 to CELL_FACH in cell 3. The UE is expected to fail to access the assigned physical channel as the SS ceases downlink transmission in cell 3. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The procedure completes when the SS confirms UE's cell update request.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	RADIO BEARER RECONFIGURATION	The message assigns common resources so that the UE is expected to execute a transition from CELL_FACH in cell 1 to CELL_FACH in cell 3
3				The UE shall detect a failure to use the assigned common physical channel and try to perform a cell reselection.
4		→	CELL UPDATE	The UE discover the presence of cell 2 and triggers a cell update procedure.
5		←	CELL UPDATE CONFIRM	SS sends this message so that the UE moves to CELL_PCH state.

Specific Message Contents

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A, with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links - Primary CPICH Info - Primary ~~scrambling~~scrambling code	 200

8.2.~~23~~18.5 Test requirement

After step 3 the UE shall discover the presence of cell 2, enter CELL_FACH state, and initiate a cell update procedure in that cell.

~~8.2.2.24 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)~~

~~8.2.2.24.1 Definition~~

~~8.2.2.24.2 Conformance requirement~~

~~If the UE is configuring itself after receiving a message and when the UE subsequently receive a RADIO BEARER message,the The UE shall keep its old configuration when the UE receives another RADIO BEARER RECONFIGURATION message before the UE can configure the radio bearer according to an earlier RADIO BEARER RECONFIGURATION message. The UE shall transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC setting “incompatible simultaneous reconfiguration” in IE”failure cause”.~~

~~Reference~~

~~3GPP TS 25.331 clause25.331 clause 8.2.2~~

~~8.2.2.24.3 Test purpose~~

~~To confirm that the UE keeps its configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message when the UE receives another RADIO BEARER RECONFIGURATION message before the UE can complete the configuration of the radio bearer indicated in an earlier RADIO BEARER RECONFIGURATION message.~~

8.2.2.24.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the requested radio bearer(s), the UE keeps the old configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall set value "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including IE "Uplink DPCH info"
2		←	RADIO BEARER RECONFIGURATION	Sent before the "Aactivation time" in step 1 has elapsed
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RC STATUS

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.24.5 Test requirement

After step 2 the UE shall keep its configuration and transmit ana RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which contains the value "incompatible simultaneous reconfiguration" set in IE "failure cause".

8.2.2.25 Radio Bearer ReconfigurationBearer Reconfiguration from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.2.25.1 Definition

8.2.2.25.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message, which includes the spare value in the mandatory IE " DRX indicator" having criticality defined as "Reject". The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to "protocol error" in IE " failure cause" and is set to "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.2

8.2.2.25.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURERECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives a RADIO BEARER RECONFIGURATION messageRECONFIGURATION message containing a spare value in the mandatory IE " DRX indicator" with criticality defined as "Reject".

8..2.2.25.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the spare value in the mandatory IE " DRX indicator" which criticality is defined as "Reject". The UE keeps the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE " failure cause" and is set to "Information element value not comprehended" in IE " Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	The message contains aan illegal error in a mandatory IE.
2		→	RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical as "Packet to CELL_FACH from CELL_FACH in PS" found in Annex Ato the corresponding message found in the default contents of layer 3 messages for RRC tests, with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.2.25.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURERECONFIGRATION FAILURE message on the DCCH using AM RLC stating the reason "protocol error" in IE " failure cause". The message shall contain the value "Information element value not comprehended" in IE " Protocol error cause".

8.2.2.26 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH :FailureFACH: Failure (Suspension of signalling bearer)

8.2.2.26.1 Definition

8.2.2.26.2 Conformance requirement

The UE shall revert to the old configuration prior to the reception of RADIO BEARER RECONFIGURATION message, which includes IE "RB suspend/resume" specified as "Suspend", and transmit a RADIO BEARER RECONFIGURATION FAILURE message to UTRAN

Reference

3GPP TS 25.331 clause25.331 clause 8.2.2

8.2.2.26.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to a RADIOa RADIO BEARER RECONFIGURATION message.

8.2.2.26.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: CELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE whichUE which specifies the suspension of a signalling radio bearer to be reconfigured. The UE shall revert to the old configuration. Then the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the IE " failure cause" set to "configuration unacceptable".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Specifies a signalling radio bearer to be suspended.
2	→		RADIO BEARER RECONFIGURATION FAILURE	The UE shall revert to the old configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list	
RB information to reconfigure l	
RB identity	3
RB suspend/resume	"Suspend"

RADIO BEARER RECONFIGURATION FAILURE

~~Information Element~~	~~Value/remark~~
~~Message Type~~ ~~Failure cause~~ ~~Other information element~~	~~"RADIO BEARER RECONFIGURATION FAILURE"~~ ~~Configuration unacceptable~~ ~~Not checked~~

~~8.2.2.26.5 Test requirement~~

~~After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC specifying the reason "configuration unacceptable " in IE " failure cause".~~

8.2.2.19 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received)

8.2.2.19.1 ~~Definition~~

8.2.2.19.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.2

8.2.2.19.3 Test purpose

If the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.2.19.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer according to the RADIO BEARER RECONFIGURATION message prior to this new message. The UE ignores the new RADIO BEARER RECONFIGURATION message and configures according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including IE "Uplink DPCH info"
2		←	RADIO BEARER RECONFIGURATION	Sent before the "activation time" in step 1 has elapsed
3		→	RADIO BEARER RECONFIGURATION COMPLETE	The UE ignores the RADIO BEARER RECONFIGURATION message in step 2 and confirms configuration according to the RADIO BEARER RECONFIGURATION message in step 1.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical ~~to~~ as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A~~those in the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.2.19.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER RECONFIGURATION message in step 1.

~~8.2.2.28 Radio Bearer Reconfigure from CELL_DCH to CELL_FACH: Success (Subsequently received)~~

~~8.2.2.28.1 Definition~~

~~8.2.2.28.2 Conformance requirement~~

~~If the UE receives a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.~~

~~Reference~~

~~3GPP TS 25.331 clause 8.2.2~~

~~8.2.2.28.3 Test purpose~~

~~To confirm that if the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.~~

~~8.2.2.28.4 Method of test~~

~~Initial Condition~~

~~System Simulator: 1 cell~~

~~UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108~~

~~Test Procedure~~

~~The UE is in the CELL_DCH state. SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer according to the RADIO BEARER RECONFIGURATION message prior to this new message. The UE ignores the new RADIO BEARER RECONFIGURATION message and configures according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~←~~		~~RADIO BEARER RECONFIGURATION~~	~~Message includes IE "PRACH info (for RACH)"~~
~~2~~	~~←~~		~~RADIO BEARER RECONFIGURATION~~	~~SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1.~~
~~3~~	~~→~~		~~RADIO BEARER RECONFIGURATION COMPLETE~~	~~The UE ignores the RADIO BEARER RECONFIGURATION message in step 2 and confirms configuration according to the RADIO BEARER RECONFIGURATION message in step 1.~~

~~Specific Message Contents~~

~~The contents of RADIO BEARER RECONFIGURATION messages in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:~~

~~RADIO BEARER RECONFIGURATION (Step 1)~~

~~Information Element~~	~~Value/remark~~
~~Activation Time~~	~~[256+Current CFN-[current CFN mod 8 + 8]]MOD 256~~
~~RADIO BEARER RECONFIGURATION (Step 2)~~**~~Information Element~~**	~~Value/remark~~
~~Activation Time~~	~~Not Present~~

~~8.2.2.28.5 Test requirement~~

~~After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER RECONFIGURATION message in step 1.~~

8.2.2.20 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.2.20.1 Definition

8.2.2.20.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.2

8.2.2.20.3 Test purpose

To confirm that if the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.2.20.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer according to the RADIO BEARER RECONFIGURATION message prior to this new message. The UE ignores the new RADIO BEARER RECONFIGURATION message and configures according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO_BEARER RECONFIGURATION	Including IE "Uplink DPCH info"
2		←	RADIO_BEARER RECONFIGURATION	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1.
3		→	RADIO BEARER RECONFIGURATION COMPLETE	The UE ignores the RADIO BEARER RECONFIGURATION message in step 2 and confirms configuration according to the RADIO BEARER RECONFIGURATION message in step 1.

Specific Message Contents

~~RADIO BEARER RECONFIGURATION (step 1)~~

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A ~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

RADIO BEARER RECONFIGURATION (step 1)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.2.20.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER RECONFIGURATION message in step 1.

8.2.2.30 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Success (Subsequently received)

8.2.2.30.1 Definition

8.2.2.30.2 Conformance requirement

If the UE receives a RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to the previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.30.3 Test purpose

To confirm that if the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a previous RADIO BEARER RECONFIGURATION message, the UE shall ignore the new RADIO BEARER RECONFIGURATION message and configure according to the previous RADIO BEARER RECONFIGURATION message. Finally, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

8.2.2.30.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer according to the RADIO BEARER RECONFIGURATION message prior to this new message. The UE ignores the new RADIO BEARER RECONFIGURATION message and configures according to the former RADIO BEARER RECONFIGURATION message. On completion of radio bearer configuration, the UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←—	RADIO BEARER RECONFIGURATION	Message includes IE "PRACH info (for RACH)"
2		←—	RADIO BEARER RECONFIGURATION	Sent before the expiry of "activation time" specified in RADIO BEARER SETUP message of step 1.
3		—→	RADIO BEARER RECONFIGURATION COMPLETE	The UE ignores the RADIO BEARER RECONFIGURATION message in step 2 and confirms configuration according to the RADIO BEARER RECONFIGURATION message in step 1.

Specific Message Contents

~~The contents of RADIO BEARER RECONFIGURATION message in this test case is identical as "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:~~

~~RADIO BEARER RECONFIGURATION (step 1)~~

~~Information Element~~	~~Value/remark~~
~~Activation Time~~	~~[256+Current CFN-[current CFN mod 8 + 8]]MOD 256~~

~~8.2.2.30.5 Test requirement~~

~~After step 3 the UE shall communicate with the SS on the radio bearer specified in the RADIO BEARER RECONFIGURATION message in step 1.~~

8.2.3 Radio Bearer Release

8.2.3.1 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success

8.2.3.1.1 ~~———————~~Definition

8.2.3.1.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.1.3 Test purpose

To confirm that the UE release the existing radio bearer according to a RADIO BEARER RELEASE message received from the SS.

8.2.3.1.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: CS-DCCH+DTCH~~CELL~~ _DCH(state 6-9) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2				Release the radio bearer
3	→		RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message are indicated as "Speech in CS" found in default message content clause 9 of TS 34.108.

~~None~~

8.2.3.1.5 Test requirement

After step 1 the UE shall release its radio bearers.

After step 3 the UE shall stop communicating on the released radio bearers, no uplink transmission shall be observed originating from the released link. The remaining radio bearers shall continue to be operational.

8.2.3.2 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.3.2.1 ~~————————~~Definition

8.2.3.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message which ~~includes unsupported~~includes unsupported configuration parameters and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting value “configuration unacceptable” in IE ”~~-~~failure cause”.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.2.3 Test purpose

To confirm that the UE keeps its current configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, if the received RADIO BEARER RELEASE message indicates an unsupported configuration parameters for the UE.

8.2.3.2.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: CS-DCCH+DTCH~~CELL~~ _DCH(state 6-9) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE specifying a frequency which is not supported by the UE. The UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC indicating “configuration unacceptable” in IE ”~~-~~failure cause”~~.~~.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	Including unsupported configuration by the UE
2	→		RADIO BEARER RELAESE FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical as “Speech in CS” found in default message content clause 9 of TS 34.108 ~~to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.3.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC with ~~the IE~~the IE ”~~-~~failure cause” set to “configuration unacceptable”. The UE shall able to continue receiving and sending user data.

8.2.3.3 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.3.3.1 ~~————————~~Definition

8.2.3.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer by timer T312 expiry and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to “physical channel failure” in IE ”~~-~~failure cause”.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the UE fails to release the radio bearer according to ~~a RADIO~~a RADIO BEARER RELEASE message by timer T312 expiry.

8.2.3.3.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: CS-DCCH+DTCH~~CELL~~ DCH(state 6-9) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message but it does not configure L1 correspondingly. This causes the UE to fail to release the radio bearer, and after T312 expiry the UE reverts to the old configuration. The UE then transmits a RADIO BEARER ~~RELEASE FAILURE~~RELEASE FAILURE message on the DCCH using AM RLC which specifies “~~-~~physical channel failure” in IE ”~~-~~failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2				The SS does not configure L1 to reflect the release of the indicated bearer.
3		→	RADIO BEARER RELEASE FAILURE	After T312 expiry, the UE finds that it fails to release a radio bearer and reverts to the old configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical as “Speech in CS” found in default message content clause 9 of TS 34.108

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.3.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which includes the value “physical channel failure” in IE ”failure cause”.

8.2.3.4 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure(Physical channel failure and reversion failure)

8.2.3.4.1 Definition

8.2.3.4.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer release procedure.

Reference

3GPP TS 25.331 clause 25.331 clause 8.2.3

8.2.3.4.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot revert to the old configuration after encountering a physical channel failure during the execution of a radio bearer release procedure.

8.2.3.4.4 Method of test

Initial Condition

System Simulator :Simulator: 2 cells - Cell 1 is active, Cell.2 is inactive

UE :UE: CS-DCCH+DTCHCELL_DCH(state 6-9) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS begins to broadcast the BCCH in cell 2 with a lower power level than for cell 1. At the same time, it transmits a RADIO BEARER RELAESE message to the UE but does not configure L1. As a result, the UE fails to release the radio bearer properly and tries to revert to the old configuration after T312 expiry. But the SS ~~deletes the~~deletes the old radio bearer so the UE shall find the availability of cell 2 and transmits to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message~~, which~~, which includes the IE "U-RNTI" and sent on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to transmit the BCCH for cell 2 but at a lower power level than cell 1.
2		←	RADIO BEARER RELEASE	
3				The SS does not configure L1 and deletes the old configuration. This is expected to cause the UE to fail in the release the radio bearer and can not revert to the old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find cell 2 ~~and then~~and then transmit this message which includes the IE "U-RNTI" set to its assigned connected mode identity.
5		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

~~None.~~ RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case are identical as "Speech in CS" found in default message content clause 9 of TS 34.108.

8.2.3.4.5 Test requirement

After step 3 the UE shall find the presence of cell 2, enter CELL_FACH state, and transmits RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH of cell 2.

After step 6 the UE shall successfully re-establish an RRC connection, after sending RRC CONNECTION RE-RESTABLISHMENT COMPLETE message.

8.2.3.5 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.5.1 ~~————————~~Definition

8.2.3.5.2 Conformance requirement

If the UE is configuring itself after receiving a radio bearer message other than RADIO BEARER RELEASE message, and when the UE subsequently receive a RADIO BEARER RELEASE message the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause".

~~The UE shall keep its old configuration when the UE receives another RADIO BEARER RELEASE message before the UE is able to release the indicated radio bearer according to a RADIO BEARER RELEASE message. The UE shall transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE"failure cause".~~

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.5.3 Test purpose

To confirm that the UE keeps its configuration when the UE receives ~~another~~ A RADIO BEARER RELEASE message before the UE releases the radio bearer according to the earlier ~~RADIO BEARER RELEASE~~ message.

8.2.3.5.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. SS transmits a RADIO BEARER RELEASE message on the downlink DCCH, requesting the UE to release all radio bearers mapped to dedicated transport channels. Next, the SS transmits another RADIO BEARER RELEASE message to the UE before the UE is able to release the radio bearers requested in the earlier message. The UE shall keep the old configuration. It shall transmit ~~an~~a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO -BEARER ~~RELEASE~~SETUP	
2		←	RADIO -BEARER RELEASE	Message sent before the "A~~a~~ctivation time" indicated in the message of step 1 has elapsed.
3		→	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER ~~RELEASE~~ SETUP (Step 1)

The contents of RADIO BEARER SETUP ~~RELEASE~~ message in this test case is identical to the message sub-type title "Packet to CELL_~~FACH~~ DCH from CELL_DCH in PS" found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A. Information element(s) to be changed are listed below:

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.5.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit ~~an~~a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration” in IE ”failure cause”.

8.2.3.6 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception)

8.2.3.6.1 ~~————————~~Definition

8.2.3.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message which ~~includes the~~includes the spare value in the mandatory IE ”-DRX indicator”. It shall transmit a RADIO BEARER RELEASE FAILURE message which contains value “protocol error” in IE ”-failure cause” and value “Information element value not comprehended” in IE ”-Protocol error cause”.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.6.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message, which uses a spare value in the mandatory IE ” DRX indicator”.

8.2.3.6.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: CS-DCCH+DTCH~~CELL~~ DCH(state 6-9) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE which includes the spare value in the mandatory IE ”-DRX indicator”. The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. This message shall indicate “protocol error” in IE ”-failure cause” and also “Information element value not comprehended” in IE ”-Protocol error cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2		→	RADIO BEARER RELEASE FAILURE	The UE shall not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical as "Speech in CS" found in default message content clause 9 of TS 34.108~~to that found in default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
DRX indicator	Spare value

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.3.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which is set to "protocol error" in IE "~~-~~failure cause" and is set to "Information element value not comprehended" in IE "~~-~~Protocol error cause".

8.2.3.7 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success

8.2.3.7.1 ~~————————~~Definition

8.2.3.7.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message, when the common physical channel are requested to be used for the remaining radio bearers.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.7.3 Test purpose

To confirm that the UE release the existing the radio bearer according to a RADIO BEARER RELEASE message received from the SS.

8.2.3.7.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DTCH+DCCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	SS releases the radio bearer in the fashion specified in the message and allocate common channel resources to carry the remaining radio bearers.
2				UE shall release radio bearers on dedicated transport channels, and reconfigure the remaining radio bearers using the given common control channel.
3		→	RADIO -BEARER RELEASE COMPLETE	UE shall be able to continue communication over the remaining radio bearers using the allocated common control channels.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS” in Annex A.

8.2.3.7.5 Test requirement

After step 3 the UE shall release the specified radio bearer(s) and cease any further uplink transmission from these radio bearer(s). At the same time, it shall resume the transmission or reception of data for the previously suspended radio bearers.

~~8.2.3.8 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)~~

~~8.2.3.8.1 Definition~~

~~8.2.3.8.2 Conformance requirement~~

~~The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message, which includes an unsupported configuration parameters and then transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting “configuration unacceptable” in IE “failure cause”.~~

~~Reference~~

~~3GPP TS 25.331 clause 25.331 clause 8.2.3~~

~~8.2.3.8.3 Test purpose~~

~~To confirm that the UE keeps its configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RELEASE message includes unsupported configuration parameters for the UE.~~

8.2.3.8.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE as the frequency cannot be supported by the UE. The UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set value "configuration unacceptable" in IE " failure cause"..

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	The message Includes a configuration unsupported by the UE.
2	→		RADIO BEARER RELAESE FAILURE	The UE does not alter the current radio bearer configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not present

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.3.8.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE " failure cause".

8.2.3.98 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Failure (Physical channel failure)

8.2.3.98.1 Definition

8.2.3.98.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER RELEASE message as the transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.~~9~~8.3 Test purpose

To confirm that the UE perform a cell update ~~procedure when~~procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER RELEASE message as the transition from CELL_DCH to CELL_FACH.

8.2.3.~~9~~8.4 Method of test

Initial Condition

System Simulator~~-~~: 2 cells? No.1 is active, No.2 is inactive?

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state in cell No.1. The SS begins to broadcast the BCCH in cell No.2 and transmits a RADIO BEARER RELEASE message as the transition from CELL_DCH to CELL_FACH. The UE cannot use the assigned physical channel as the SS does not transmit any data on the DL common channel in cell No.1. Then the UE initiate the cell update procedure in cell No.2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS broadcasts BCCH in cell No.2.
2		←	RADIO BEARER RELEASE	Assigned the transition from CELL_DCH to CELL_FACH
3				The UE cannot use the assigned the physical channel.
4		→	CELL UPDATE	The UE finds a new cell?No.2? and begins a cell update procedure.
5		←	CELL UPDATE CONFIRM	In the CELL_FACH state

Specific Message Contents

RADIO BEARER RELEASE

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS” in Annex A.

~~None~~

8.2.3.~~9~~8.5 Test requirement

After step 3 the UE shall find a new cell No.2 and enter to CELL_FACH state. Then the UE shall initiate a cell update procedure in cell No.2.

~~8.2.3.10 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)~~

~~8.2.3.10.1 Definition~~

8.2.3.10.1 Conformance requirement

If the UE is configuration itself after receiving a message and when the UE subsequently receive a RADIO BEARER RELEASE messagethe The UE shall keep its old configuration when the UE receives another RADIO BEARER RELEASE message, before the UE manages to release the radio bearer specified in the RADIO BEARER RELEASE message. The UE shall transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set value "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.3

8.2.3.10.2 Test purpose

To confirm that the UE keeps its configuration when the UE receives another RADIO BEARER RELEASE message before the UE has completed the configuration release of the radio bearer according to a previous RADIO BEARER RELEASE message.

8.2.3.10.3 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the it UE completes the releases of the requested radio bearer, the UE keeps the old configuration. Thereafter, it transmits ana RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2		←	RADIO BEARER RELEASE	Sent before the passing of the "activation time" indicated in RADIO BEARER RELEASE message in step 1.
3		→	RADIO BEARER RELEASE FAILURE	The UE shall not change the radio bearer configuration.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to those found in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN [current CFN mod 8 + 8]

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.10.4 Test requirement

After step 2 the UE shall keep its old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.3.11 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.3.11.1 Definition

8.2.3.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message. The message uses a spare value for the mandatory IE " DRX indicator". Upon receiving this message, the UE shall transmit a RADIO BEARER RELEASE FAILURE message containing the value "protocol error" in IE " failure cause" and also the value "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.3

8.2.3.11.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receivesit receives a RADIO BEARER RELEASE message which uses a spare value in the mandatory IE " DRX indicator".

8.2.3.11.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE which indicates a spare value in the mandatory IE " DRX indicator". The UE shall keeps the old configuration and then transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. The content of this message shall indicatesindicate "protocol error" in IE " failure cause" and also "Information element value not comprehended" in IE " Protocol error cause".

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~—←~~		~~RADIO BEARER RELEASE~~	~~This message uses a spare value for a mandatory IE.~~
~~2~~	~~—→~~		~~RADIO BEARER RELEASE FAILURE~~	~~The UE does not change the configuration.~~

~~Specific Message Contents~~

~~RADIO BEARER RELEASE~~

~~The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A those found in the default contents of layer 3 messages for RRC tests with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~DRX indicator~~	~~Spare value~~

~~RADIO BEARER RELEASE FAILURE~~

~~Information Element~~	~~Value/remark~~
~~Message Type~~ ~~Failure cause~~ ~~- Failure cause~~ ~~- Protocol error information~~ ~~- Protocol error cause~~ ~~Other information element~~	 ~~Protocol error~~ ~~Information element value not comprehended~~ ~~Not checked~~

~~8.2.3.11.5 Test requirement~~

~~After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which set "protocol error" in IE " failure cause" and also set "Information element value not comprehended" in IE " Protocol error cause".~~

8.2.3.~~11~~9 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success

8.2.3.~~11~~9.1 ~~———~~Definition

8.2.3.~~11~~9.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.~~11~~9.3 Test purpose

To confirm that an UE, in state CELL_FACH, releases the radio access bearers on RACH and FACH transport channels. After the release, it shall access the affected radio bearers on the newly allocated DCH transport channel.

8.2.3.~~11~~9.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message to the UE. In this message, SS commands the UE to release radio bearers on RACH and FACH. At the same time, SS allocates DCH to support the affected radio bearers. The UE shall release the indicated radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2				UE shall release the radio access bearers carried by RACH and FACH transport channels.
3		→	RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled “Packet to CELL_DCH from CELL_FACH in PS” in Annex A.

8.2.3.~~12~~9.5 Test requirement

After step 3 the UE shall stop communicating on the released radio bearers, and resume all suspended radio bearer using the dedicated physical channel allocated.

8.2.3.~~13~~10 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.3.~~13~~10.1 ~~———————~~Definition

8.2.3.~~13~~10.2 Conformance requirement

The UE shall keep its old configuration when it receives a RADIO BEARER RELEASE message which specifies unsupported configuration parameters for the UE. Then the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which, setting value “configuration unacceptable” in IE ”~~-~~failure cause”.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.~~.~~2.3.~~13~~10.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RELEASE message requests for unsupported configuration parameters for the UE.

8.2.3.~~13~~10.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE, referring to a frequency which cannot be supported by the UE. The UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set "configuration unacceptable" in IE " failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	The message contains a configuration not supported by the UE
2	→		RADIO BEARER RELAESE FAILURE	The UE shall not change the radio bearer configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.3.~~13~~10.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, stating the reason "configuration unacceptable" in IE "failure cause".

8.2.3.~~14~~11 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.3.~~14~~11.1 ~~Definition~~

8.2.3.~~14~~11.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer before T312 timer expiry. Then it shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "failure cause".

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.~~14~~11.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the UE fails to release the radio bearer in accordance the specified settings in RADIO BEARER RELEASE message by T312 timer expiry.

8.2.3.~~14~~11.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message and does not configure L1. The UE is expected to encounter a failure while releasing the radio bearer. After T312 timer expiry, the UE shall revert to the old radio bearer configuration, so the UE transmits a RADIO BEARER ~~RELEASE FAILURE~~RELEASE FAILURE message on the DCCH using AM RLC which is set to "~~-~~physical channel failure" in IE_"~~-~~failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2				The SS does not configure L1.
3	→		RADIO BEARER RELEASE FAILURE	After T312 expiry the UE fails to release a radio bearer and reverts to the old configuration.

Specific Message Contents

RADIO BEARER RELEASE

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.3.~~14~~11.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE_"~~-~~failure cause".

8.2.3.~~15~~12 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure(Physical channel failure and reversion failure)

8.2.3.~~15~~12.1 ~~————————~~Definition

8.2.3.~~15~~2.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer release procedure.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.~~15~~12.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot revert to the old configuration, following a physical channel failure during the radio bearer release.

8.2.3.~~15~~12.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 2 cells - Cell.1 is active, Cell 2 is inactive

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108 in cell No.1

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a RADIO BEARER RELAESE message to the UE, but it does not configure L1. This is expected to cause the UE to experience a failure to release the radio bearer and it subsequently tries to revert to the old configuration after T312 expiry. The SS ~~deletes the~~deletes the old radio bearer, so the UE shall find cell 2 and transmits to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message~~, which~~, which includes the IE "U-RNTI" on the uplink CCCH. After receiving this message, the SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to transmit the BCCH in a cell 2.
2		←	RADIO BEARER RELEASE	
3				The SS does not configure L1 and deletes the old configuration so the UE cannot release the radio bearer and also fails revert to the old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds a new cell 2 and then transmits this message which includes the IE "U-RNTI" it has been assigned to.
5		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

~~None.~~ RADIO BEARER RELEASE

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

8.2.3.~~15~~12.5 Test requirement

After step 3 the UE shall find the presence of cell 2, enter CELL_FACH state, and transmit a RRC CONNECTION RE-ESTABLISHMENT REQUEST on the uplink CCCH.

After step 6 the UE shall successfully re-establish an RRC connection and access the dedicated physical channels assigned.

8.2.3.~~16~~13 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.~~16~~13.1 ~~————————~~Definition

8.2.3.~~16~~13.2 Conformance requirement

If the UE is configuring itself after receiving a radio bearer message other than RADIO BEARER RELEASE message, and when the UE subsequently receive a RADIO BEARER RELEASE message the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause". ~~The UE shall keep its old configuration when the UE receives another RADIO BEARER RELEASE message before the UE is able to release the radio bearer according to an earlier RADIO BEARER RELEASE message. The UE shall then transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting value "incompatible simultaneous reconfiguration" in IE"failure cause".~~

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.~~16~~3.3 Test purpose

To confirm that the UE keeps its old configuration when it receives a~~nother~~ RADIO BEARER RELEASE message before it releases the radio bearer according to an earlier ~~RADIO BEARER RELEASE~~ message.

8.2.3.~~16~~13.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE completes the release of the radio bearer, it shall keep the old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. This message shall specify the reason "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER ~~RELEASE~~SETUP	The UE receive any message other than RADIO BEARER RELEASE. (e.g. RADIO BEARER SETUP)
2		←	RADIO BEARER RELEASE	Sent before the expiry stated in IE "Activation Time" of ~~RADIO BEARER RELEASE~~ message in step 1.
3		→	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE (Step ~~1~~2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_FACH in PS” found in Annex A ~~those found in default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.~~16~~13.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, and set the value “incompatible simultaneous reconfiguration” in IE ”failure cause”.

8.2.3.~~17~~14 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.3.~~17~~14.1 ~~————————~~Definition

~~.~~

8.2.3.~~17~~14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message which uses a spare value in the mandatory IE ”-DRX indicator”. It shall transmit a RADIO BEARER RELEASE FAILURE message which indicate the value “protocol error” in IE ”-failure cause” and setting “Information element value not comprehended” in IE ”-Protocol error cause”.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.~~17~~14.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message which uses a spare value in the mandatory IE ” DRX indicator”.

8.~~.~~2.3.~~17~~14.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE containing a spare value in the mandatory IE ”-DRX indicator”. The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which shall

indicate the reason “protocol error” in IE ”-failure cause” and also “Information element value not comprehended” in IE ”-Protocol error cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change its current configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_FACH in PS” found in Annex A ~~those for the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.3.~~17~~14.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting “protocol error” in IE ”-failure cause” and also indicating “Information element value not comprehended” in IE ”-Protocol error cause”.

8.2.3.~~18~~15 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success

8.2.3.~~18~~15.1 ~~———————~~Definition

~~.~~

8.2.3.~~18~~15.2 Conformance requirement

The UE shall correctly release a radio bearer according to the RADIO BEARER RELEASE message received.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.~~18~~15.3 Test purpose

To confirm that the UE release the existing the radio bearer(s) according to the RADIO BEARER RELEASE message received from the SS.

8.2.3.~~18~~15.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2				The UE shall release the requested radio bearer(s), and stop transmitting using these radio bearer(s).
3		→	RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A.

~~None~~

8.2.3.~~18~~15.5 Test requirement

After step 1 the UE shall cease the transmission and reception of the affected radio bearers.

After step 3 the UE shall stop communicating on radio bearers to be released.

~~8.2.3.19 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)~~

~~8.2.3.19.1 Definition~~

~~.~~

~~8.2.3.19.2 Conformance requirement~~

~~The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message that specifies an unsupported configuration. It shall then transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and setting the cause “configuration unacceptable” in IE “failure cause”.~~

~~Reference~~

~~3GPP TS 25.331 clause~~25.331 clause ~~8.2.3~~

~~8.2.3.19.3 Test purpose~~

~~To confirm that the UE keeps its configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, if the received RADIO BEARER RELEASE message includes unsupported configuration parameters.~~

8.2.3.19.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: CELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE specifying a frequency, which cannot be supported by the UE. The UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, indicating "configuration unacceptable" in IE_" failure cause"..

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	Including an unsupported configuration for the UE
2	→		RADIO BEARER RELAESE FAILURE	The UE shall not change the radio bearer.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.3.19.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, and set "configuration unacceptable" in IE_" failure cause".

8.2.3.20 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.20.1 Definition

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8.2.3.20.2 Conformance requirement

If the UE is configuring itself after receiving a messageP and when the UE subsequently receive a RADIO BEARER RELEASE messagethe The UE shall keep its old configuration when the UE receives another RADIO BEARER RELEASE message, before the UE releases the radio bearer according to an earlier RADIO BEARER RELEASE message. The UE shall transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, indicating "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.3

8.2.3.20.3 Test purpose

To confirm that the UE keeps its configuration when it receives another RADIO BEARER RELEASE message before it manage to release the radio bearer according to a previous RADIO BEARER RELEASE message.

8.2.3.20.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. SS transmits a RADIO BEARER RELEASE message on the downlink DCCH, requesting the UE to release all radio access bearers established. Next, SS transmits another RADIO BEARER RELEASE message to the UE before it completes the release of the radio bearers specified in the earlier message. The UE shall keep the old configuration. It then transmits an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2	←		RADIO BEARER RELEASE	Sent before the passing of the time indicated in "Activation Time Info" in the RADIO BEARER RELEASE message of step 1.
3	→		RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.20.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, and setting "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.3.21 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.3.21.1 Definition

.

8.2.3.21.2 Conformance requirement

The UE shall keep its old configuration when it receives a RADIO BEARER RELEASE message, including a spare value in the mandatory IE " DRX indicator". It shall transmit a RADIO BEARER RELEASE FAILURE message with the cause "protocol error" in IE " failure cause" and also the cause "Information element value not comprehended" set in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.3

8.2.3.21.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, if it receives a RADIO BEARER RELEASE message using a spare value in the mandatory IE " DRX indicator".

8.2.3.21.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE which includes the use of a spare value in the mandatory IE " DRX indicator". The UE shall keep the old configuration intact and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. The message shall state "protocol error" in IE " failure cause", and also indicate "Information element value not comprehended" in IE " Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	This message contains a mandatory IE errrorerror.
2		→	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex Athose found in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.3.21.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. This uplink message shall state the reason "protocol error" in IE "failure cause" and also indicate "Information element value not comprehended" in IE "Protocol error cause".

8.2.3.16 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (Subsequently received)

8.2.3.16.1 ~~————————~~Definition

8.2.3.16.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message before the UE releases the radio bearer according to the previous RADIO BEARER RELEASE message, the UE shall ignore the new RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.16.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RELEASE message before the UE releases the radio bearer according to a previous RADIO BEARER RELEASE message it ignore the new RADIO BEARER RELEASE message and configures according to the previous RADIO BEARER RELEASE message received.

8.2.3.16.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE releases the radio bearer, the UE ignores the second RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message received. Finally, the UE shall transmit RADIO BEARER ~~RELEASE COMPLETE~~RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO_BEARER RELEASE	
2		←	RADIO_BEARER RELEASE	Message sent before. the expiry of “activation time” specified in message of step 1.
3		→	RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and confirms release according to the RADIO BEARER RELEASE message in step 1.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A.

8.2.3.16.5 Test requirement

After step 2 the UE shall releases the radio bearer specified in the first RADIO BEARER RELEASE message and transmit an RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

~~8.2.3.23 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success (Subsequently received)~~

~~8.2.3.23.1 Definition~~

~~8.2.3.23.2 Conformance requirement~~

~~If the UE receives a RADIO BEARER RELEASE message before the UE releases the radio bearer according to the previous RADIO BEARER RELEASE message, the UE shall ignore the new RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.~~

~~Reference~~

~~3GPP TS 25.331 clause 8.2.3~~

~~8.2.3.23.3 Test purpose~~

~~To confirm that if the UE receives a new RADIO BEARER RELEASE message before the UE releases the radio bearer according to a previous RADIO BEARER RELEASE message it ignore the new RADIO BEARER RELEASE message and configures according to the previous RADIO BEARER RELEASE message received.~~

~~8.2.3.23.4 Method of test~~

~~Initial Condition~~

~~System Simulator: 1 cell~~

~~UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108~~

~~Test Procedure~~

~~The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE releases the radio bearer, the UE ignores the second RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message received. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~—←~~		~~RADIO BEARER RELEASE~~	
~~2~~	~~—←~~		~~RADIO BEARER RELEASE~~	~~Sent before the passing of the "activation time" indicated in RADIO BEARER RELEASE message in step 1.~~
~~3~~	~~—→~~		~~RADIO BEARER RELEASE COMPLETE~~	~~The UE ignores the RADIO BEARER RELEASE message in step 2 and confirms release according to the RADIO BEARER RELEASE message in step 1.~~

~~Specific Message Contents~~

~~RADIO BEARER RELEASE~~

~~The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:~~

~~(Step 1)~~

~~Information Element~~	~~Value/remark~~
~~Activation Time~~	~~[256+Current CFN [current CFN mod 8 + 8]]MOD 256~~

~~8.2.3.23.5 Test requirement~~

~~After step 2 the UE shall releases the radio bearer specified in the first RADIO BEARER RELEASE message and transmit an RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.~~

8.2.3.17 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.3.17.1 ~~—————~~Definition

8.2.3.17.2 Conformance requirement

If the UE receives a RADIO BEARER RELEASE message before the UE releases the radio bearer according to the previous RADIO BEARER RELEASE message, the UE shall ignore the new RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.3

8.2.3.17.3 Test purpose

To confirm that if the UE receives a new RADIO BEARER RELEASE message before the UE releases the radio bearer according to a previous RADIO BEARER RELEASE message it ignore the new RADIO BEARER RELEASE message and configures according to the previous RADIO BEARER RELEASE message received.

8.2.3.17.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE releases the radio bearer, the UE ignores the second RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message received. Finally, the UE shall transmit RADIO BEARER ~~RELEASE COMPLETE~~RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO_BEARER RELEASE	
2		←	RADIO_BEARER RELEASE	Sent before the expiry stated in IE "Activation Time" of RADIO BEARER RELEASE message in step 1.
3		→	RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and confirms release according to the RADIO BEARER RELEASE message in step 1.

Specific Message Contents

RADIO BEARER RELEASE ~~(Step 1)~~

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~those found in default contents of layer 3 messages for RRC tests~~ with the following exceptions:

(Step 1)

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.3.17.5 Test requirement

After step 2 the UE shall releases the radio bearer specified in the first RADIO BEARER RELEASE message and transmit an RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

~~8.2.3.25 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success (Subsequently received)~~

~~8.2.3.25.1 Definition~~

~~8.2.3.25.2 Conformance requirement~~

~~If the UE receives a RADIO BEARER RELEASE message before the UE releases the radio bearer according to the previous RADIO BEARER RELEASE message, the UE shall ignore the new RADIO BEARER RELEASE message and releases according to the previous RADIO BEARER RELEASE message. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.~~

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.25.3 Test purpose

To confirm that the UE keeps its configuration when it receives a RADIO BEARER RELEASE message before it manage to release the radio bearer according to the previous RADIO BEARER RELEASE message.

8.2.3.25.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE releases the radio bearer, the UE Ignore the second RADIO BEARER RELEASE message and releases according to the first RADIO BEARER RELEASE message received. Finally, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2		←	RADIO BEARER RELEASE	Sent before the passing of the time indicated in "Activation Time Info" in the RADIO BEARER RELEASE message of step 1.
3		→	RADIO BEARER RELEASE COMPLETE	The UE ignores the RADIO BEARER RELEASE message in step 2 and confirms release according to the RADIO BEARER RELEASE message in step 1.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.

8.2.3.25.5 Test requirement

After step 2 the UE shall releases the radio bearer specified in the first RADIO BEARER RELEASE message and transmit an RADIO BEARER RELEASE COMPLETE message on the DCCH using AM RLC.

8.2.4 Transport channel reconfiguration

8.1.2.4.1 Transport channel reconfiguration from CELL_DCH to CELL_DCH (Hard handover to same radio frequency): Success with no transport channel type switching

8.2.4.1.1 ~~Definition~~

8.2.4.1.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to the TRANSPORT CHANNEL RECONFIGURATION message, which specifies a hard handover to another cell. After the completion of this procedure, the UE shall be able ~~to communicate~~to communicate with the UTRAN on the new transport channel.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.1.3 Test purpose

To confirm that the UE reconfigures a new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message~~, which~~, which also specifies that a hard handover to another cell be performed simultaneously.

8.2.4.1.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 2 cells – cell 1 and cell 2 are both active

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters to be applied in cell 2. The UE shall reconfigure the new transport channel and then transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 2 using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONGURATION	Hard handover to cell 2. Including UE information elements("TFS"I)
2				UE shall suspend all uplink transmissions and reconfigure itself to use the new transport channel parameters
3	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A, with the following exceptions:

Information Element	Value/remark
TrCH Information Elements -Uplink transport Channels -Added or Reconfigured TrCH information list -Downlink transport Channels -Added or Reconfigured TrCH information list Downlink information for each radio links - Primary CPICH info - Primary Scrambling Code	 Number of Transport blocks = 2 Number of Transport blocks = 2 Same downlink UARFCN as used for cell 2 150

8.2.4.1.5 Test requirement

After step 1 the UE shall reconfigure the radio links affected by the changes for uplink and downlink DCH. The UE shall stop transmitting on the uplink of cell 1.

After step 3 the UE shall continue to communicate with the SS on the DCCH of cell 2, using the new Transport Format Set (TFS) applicable on the existing transport channel.

8.2.4.2 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.4.2.1 ~~————————~~Definition

8.2.4.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes ~~-~~unsupported configuration parameters and transmit ~~a TRANSPORT~~a TRANSPORT ~~CHANNEL RECONFIGURATION~~CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “configuration unacceptable” in IE ”~~-~~failure cause

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.2.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received TRANSPORT CHANNEL RECONFIGURATION message specifies unsupported configuration parameters.

8.2.4.2.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters of the UE. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the event “configuration unacceptable” in IE ”~~-~~failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONGURATION	Including unsupported configuration by the UE
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the settings used by the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
TrCH Information Elements -Uplink transport Channels -Added or Reconfigured TrCH information list -Downlink transport Channels -Added or Reconfigured TrCH information list	 Number of Transport blocks = 4096 Selected value as the UE can not support. Number of Transport blocks = 4096

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"TRANSPORT CHANNEL RECONFIGURATION FAILURE" Configuration unacceptable Not checked

8.2.4.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "configuration unacceptable" in IE "~~-~~failure cause".

8.2.4.3 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.4.3.1 ~~———————~~Definition

8.2.4.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by ~~received TRANSPORT~~received TRANSPORT CHANNEL RECONFIGURATION ~~massage~~message~~-~~ ~~-~~and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE "~~-~~failure cause".

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to ~~a TRANSPORT~~a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.3.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters but it does not reconfigure the new transport channel. Therefore, the UE cannot reconfigure them and have to revert to the old configuration. Then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "physical channel failure" in IE "~~failure cause~~".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	Specifies a change in the TFS of the dedicated transport channel used.
2				The SS does not reconfigure the transport channel, leading to the UE unable to reconfigure the new transport channel.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE reverts to the old configuration and transmits this message.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A.

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, and it shall set the value "physical channel failure" in IE "~~failure cause~~".

8.2.4.4 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.4.1 ~~———————~~Definition

8.2.4.4.2 Conformance requirement

This procedure is used to failure of reconfiguration for a transport channel because of physical channel failure and reversion failure for the transition from CELL_FACH to CELL_FACH in the same cell.~~.~~

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.4.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot reconfigure the new transport channel due to a failure of L1 configuration, and subsequently fail to revert to the old configuration after T312 expiry.

8.2.4.4.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 2 cells – Cell 1 is active, Cell 2 is inactive

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _DCH(state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. SS begins to broadcast the BCCH of cell 2 using a power level lower than that applied for cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE. The message specifies a new set of transport channel parameters but the SS does not reconfigure L1 correspondingly. At the same time, SS deletes its current contexts for cell 1. As a result, the UE cannot reconfigure the new transport channel and shall attempt to revert to the old configuration. The UE shall find the presence of cell 2 and then transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST ~~message which~~message which includes the IE "U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel assigned. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	SS begins to transmit the BCCH for cell 2,
2		←	TRANSPORT CHANNEL RECONGURATION	Specifies the use of a new setting for transport channel.
3				The SS does not reconfigure L1 and deletes the old configuration present in cell 1.~~.~~
4				The UE fails to reconfigure a new transport channel.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE detects the presence of cell.2, and then transmits this message which includes the IE "U-RNTI".
6		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A.~~None~~

8.2.4.4.5 Test requirement

After step 4 the UE shall discover cell 2, enter CELL_FACH state, and then transmit a RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

After step 7 the UE shall successfully re-establish an RRC connection in cell 2.

8.2.4.5 Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.5.1 ~~———————~~Definition

8.2.4.5.2 Conformance requirement

If the UE is reconfiguring itself after receiving a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, and when the UE subsequently receive a TRANSPORT CHANNEL RECONFIGURATION message ~~and UE~~and UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause".~~The UE shall keep its old configuration when the UE receives another TRANSPORT CHANNEL RECONFIGURATION message, before the UE completes the configuration of the transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received earlier. The UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE"failure cause".~~

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.5.3 Test purpose

To confirm that the UE keeps its current configuration~~,~~ and transmits ~~an~~a TRANSPORT CHANNEL RECONFIGURATION FAILURE message when it receives ~~another~~ a TRANSPORT ~~CHANNEL RECONFIGURATION~~CHANNEL RECONFIGURATION message before the completion of an earlier reconfiguration request.

8.2.4.5.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE has successfully configured the transport channel specified in ~~an earliera~~ previous message, the UE keeps the old configuration. After that, the UE shall transmit ~~an~~a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	~~TRANSPORT CHANNEL~~RADIO BEARER- RECONFIGURATION	Including IE "Uplink DPCH info"
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the time specified in IE "Activation Time Info" of message in step 1 has elapsed.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

~~The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests with the following exceptions:~~

RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A.

TRANSPORT CHANNEL RECONFIGURATION (Step ~~1~~2)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the corresponding message found in Annex A~~the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.~~.~~2.4.5.5 Test requirement

After step 2 the UE shall keep its configuration and transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC~~, stating~~, stating the reason "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.4.6 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception)

8.2.4.6.1 ~~———————~~Definition

8.2.4.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which makes use of a spare value in the mandatory IE "~~-~~DRX indicator". Then it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message with the value "protocol error" set in IE "~~-~~failure cause" and also "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.6.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if the received TRANSPORT CHANNEL RECONFIGURATION message comprises a spare value in the mandatory IE "DRX indicator".

8.2.4.6.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a spare value in the mandatory IE "DRX indicator". The UE shall keep the old configuration and transmit a TRANSPORT ~~CHANNEL RECONFIGURATION~~CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "protocol error" in IE " failure cause" and also indicating "Information element value not comprehended" in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Contains an illegal value for a mandatory IE
2		→	TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical ~~to those~~ in Annex A~~the default contents of layer 3 messages~~ for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.4.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit ~~a TRANSPORT~~a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify "protocol error" in IE "~~failure cause~~" and set value "Information element value not comprehended" in IE " Protocol error cause".

8.2.4.7 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Success

8.2.4.7.1 ~~————————~~Definition

8.2.4.7.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to TRANSPORT CHANNEL RECONFIGURATION ~~massage~~message, after it is requested to perform a transition from CELL_DCH to CELL_FACH in the same cell in conjunction with the transport channel reconfiguration.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.7.3 Test purpose

To confirm that the UE reconfigures a new ~~Transport channel~~Transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.7.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits TRANSPORT CHANNEL RECONFIGURATION message to the ~~UE which~~UE ~~omits~~which omits IE "~~-~~Uplink DPCH info" and IE "~~-~~Downlink DPCH info~~" :~~". This should cause the UE to perform a state transition from CELL_DCH to CELL_FACH in the same cell. The UE then reconfigures the new transport channel according to this message and reconfigure the new physical channel according to the system information messages. Finally, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	IE "Uplink DPCH Info" and IE "Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration of transport channel
3		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.~~None.~~

8.2.4.7.5 Test requirement

After step 3 the UE shall transit from CELL_DCH to CELL_FACH in the same cell, and then continue to communicate with SS on the new transport channel and common physical channels.

8.2.4.8 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)

8.2.4.8.1 Definition

8.2.4.8.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupportedincludes unsupported configuration parameters and transmit a TRANSPORTa TRANSPORT CHANNEL RECONFIGURATIONCHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE " failure cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.4

8.2.4.8.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received TRANSPORT CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.4.8.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE " failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONGURATION	Including an unsupported transport channel configuration for the UE
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

~~Information Element~~	~~Value/remark~~
~~TrCH Information Elements~~ ~~-Uplink transport Channels~~ ~~>Added or Reconfigured TrCH information list~~ ~~-Downlink transport Channels~~ ~~>Added or Reconfigured TrCH information list~~	 ~~Number of transport blocks = 4096~~ ~~Number of transport blocks = 4096~~

~~TRANSPORT CHANNEL RECONFIGURATION FAILURE~~

~~Information Element~~	~~Value/remark~~
~~Message Type~~ ~~Failure cause~~ ~~Other information element~~	 ~~Configuration unacceptable~~ ~~Not checked~~

~~8.2.4.8.5 Test requirement~~

~~After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, which shall contains cause "configuration unacceptable" in IE " failure cause".~~

8.2.4.~~9~~8 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Failure (Physical channel failure and reversion to old configuration)

8.2.4.~~9~~8.1 Definition

8.2.4.~~9~~8.2 Conformance requirement

The UE shall revert the old configuration when it fails to reconfigure the new transport channel requested. When reversion is successful, it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE ~~massage~~message to UTRAN.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~9~~8.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to the TRANSPORT CHANNEL RECONFIGURATION message received.

8.2.4.~~9~~8.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the ~~UE which~~UE which includes the new transport channel parameters. However, it does not reconfigure the new transport channel to reflect change. As a result, the UE should encounter difficulties in the reconfigure process and after T312 expiry, it shall revert to its stored old configuration. When the UE manages to return to the old configuration, it transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and set the reason "physical channel failure" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	
2				The SS does not reconfigure the transport channel hence the UE could not access the new transport channel.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	After T312 expiry, the UE reverts to the old configuration and transmits this message using the original transport channel settings.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS” in Annex A.

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	TRNSPORT CHANNEL RECONFIGURATION FAILURE
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.~~9~~8.5 Test requirement

After step2 the UE shall attempt revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The failure message shall contain the reason “physical channel failure” in IE ”~~-~~failure cause”.

8.2.4.~~10~~9 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Failure (Physical channel failure and reversion failure)

8.2.4.~~10~~9.1 ~~———————~~Definition

8.2.4.~~10~~9.2 Conformance requirement

The UE shall initiate a RRC connection re-establishment procedure, after it encounters a physical channel failure followed by an inability to revert to the old transport channel configuration.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~10~~9.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE fails successively in the following actions: (a) configure the new transport channel according to TRANSPORT CHANNEL RECONFIGGURATION message received and (b) revert to the old channel configuration after timer T312 expiry.

8.2.4.~~10~~9.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. SS begins to transmit the BCCH for cell 2. The SS then transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which specifies the new transport channel parameters on common physical channel. But the SS does not reconfigure the L1 parameters and the new transport channel to reflect this change. Consequently, the UE discovers that it cannot reconfigure the new transport channel and try to revert to the old configuration. At this time, SS deletes all context related to the old configuration in cell 1. Then the UE should find cell 2 and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE_"U-RNTI" on the uplink CCCH. After the reception of such a message, the SS transmits an RRC CONNECTION RE-ESTABLISHMENT message and includes a new TFCS for the new transport channel in cell 2. After receiving this message, the UE reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1		←	BCCH	The SS starts to transmit the BCCH cell 2.
2		←	TRANSPORT CHANNEL RECONGURATION	
3				The SS does not reconfigure L1. At the same time, it deletes the old channel configuration.
4				The UE fails to reconfigure a new transport channel.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall discover the presence of cell 2 and transmits this message, which includes the IE_"U-RNTI".
6		←	RRC CONNECTION RE-ESTABLISHMENT	A new TFCS is commanded according to the new transport channel.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.~~None~~

8.2.4.~~10~~9.5 Test requirement

After step 4 the UE shall find cell 2, enter CELL_FACH state and then initiate RRC ~~connection re~~connection re-establishment procedure in cell 2.

After step 7 the UE shall successfully re-establish an RRC connection in cell 2.

~~8.2.4.11 Transport Channel Reconfiguration from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)~~

~~8.2.4.11.1 Definition~~

~~8.2.4.11.2 Conformance requirement~~

~~If the UE is reconfiguring itself after receiving a message and when the UE subsequently receive a TRANSPORT CHANNEL RECONFIGURATION messageand The UE shall keep its old configuration when the UE receives another TRANSPORT CHANNEL RECONFIGURATION message before the UE configures~~

the transport channel, according to an earlier TRANSPORT CHANNEL RECONFIGURATION message. The UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which specifies “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause25.331 clause 8.2.4

8.2.4.11.3 Test purpose

To confirm that the UE keeps its configuration and transmits an TRANSPORT CHANNEL RECONFIGURATION FAILURE message when the UE receives another TRANSPORT CHANNEL RECONFIGURATION message, before the UE had completed the configuration of the transport channel originating from an earlier TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.11.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to request for a reconfiguration of the transport channel, leading to a state transition to CELL_FACH. However, before the completion of this process, SS sends a second TRANSPORT CHANNEL RECONFIGURATION message. The UE shall keep the old configuration as if no reconfiguration has occurred and then transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The status message shall indicate “incompatible simultaneous reconfiguration” in IE ”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	—←		TRANSPORT CHANNEL RECONFIGURATION	IE “Activation Time Info” is included
2	—←		TRANSPORT CHANNEL RECONFIGURATION	Sent before the activation time requested in step 1 has passed.
3	—→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title “Packet to CELL_FACH from CELL_DCH in PS” found in Annex A those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN [current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURTION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.11.5 Test requirement

After step2 the UE shall keep its configuration and then transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, containing the reason "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.4.12 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.4.12.1 Definition

8.2.4.12.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which makes use of a spare value in the mandatory IE " DRX indicator". Then it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message, setting the value "protocol error" in IE " failure cause" and also setting "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.4

8.2.4.12.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message which uses a spare value in the mandatory IE " DRX indicator".

8.2.4.12.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, and includes a spare value in the mandatory IE " DRX indicator". The UE shall keep the old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify "protocol error" in IE " failure cause" and also "Information element value not comprehended" in IE " Protocol error cause".

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~←~~		~~TRANSPORT CHANNEL RECONFIGURATION~~	~~Contains a mandatory IE error.~~
~~2~~	~~→~~		~~TRANSPORT CHANNEL RECONFIGRATION FAILURE~~	~~The UE shall not change the configuration.~~

~~Specific Message Contents~~

~~TRANSPORT CHANNEL RECONFIGURATION~~

~~The contents of TRANSPORT~~of TRANSPORT CHANNEL RECONFIGURATION message in this test case ~~is identical to the message sub type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A those of the default contents of layer 3 messages for RRC tests with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~DRX indicator~~	~~spare value~~

~~TRANSPORT CHANNEL RECONFIGURATION FAILURE~~

~~Information Element~~	~~Value/remark~~
~~Message Type~~	~~" TRANSPORT CHANNEL RECONFIGURATION FAILURE"~~
~~Failure cause~~ ~~- Failure cause~~ ~~- Protocol error information~~ ~~- Protocol error cause~~	~~Protocol error~~ ~~Information element value not comprehended~~
~~Other information element~~	~~Not checked~~

~~8.2.4.12.5 Test requirement~~

~~After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The UE shall set "protocol error" in IE " failure cause" and also "Information element value not comprehended" in IE " Protocol error cause".~~

8.2.4.~~13~~10 Transport channel reconfiguration from CELL_FACH to CELL_DCH-: Success

8.2.4.~~13~~10.1 ~~Definition~~

8.2.4.~~13~~10.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to TRANSPORT CHANNEL RECONFIGURATION ~~massage~~message, which trigger a state transition from CELL_FACH to CELL_DCH in the same cell.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~13~~10.3 Test purpose

To confirm that the UE reconfigures a new transport channel using dedicated physical channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.~~13~~10.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes IE "-Uplink DPCH info" and IE "-Downlink DPCH info" leading to a state transition from CELL_FACH to CELL_DCH in the same cell. The UE shall reconfigure the new transport channel according to this message and then reconfigure the new physical channel according to the system information message. Finally, the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	Includes both IE "Uplink DPCH Info" and IE "Downlink DPCH Info" in the message.
2				Reconfiguration of transport channel
3	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.~~None.~~

8.2.4.~~13~~10.5 Test requirement

After step3 the UE shall transit from CELL_FACH to CELL_DCH in the same cell, and continue to communicate with SS using the new transport channel configuration based on DPCH physical channels.

8.2.4.~~14~~11 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.4.~~14~~11.1 ~~————————~~Definition

8.2.4.~~14~~11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which ~~includes unsupported~~includes unsupported configuration parameters and transmit ~~a TRANSPORT~~a TRANSPORT ~~CHANNEL RECONFIGURATION~~CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE "-failure cause

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~14~~11.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC when it receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters.

8.2.4.~~14~~11.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "configuration unacceptable" in IE_"~~ failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	The message includes unsupported configuration by the UE
2		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A~~those in the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
TrCH Information Elements -Uplink transport Channels -Added or Reconfigured TrCH information list -Downlink transport Channels -Added or Reconfigured TrCH information list	 Number of transport channels = 4096 Number of transport channels = 4096

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"TRANSPORT CHANNEL RECONFIGURATION FAILURE" Configuration unacceptable Not checked

8.2.4.~~14~~11.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The UE shall set "configuration unacceptable" in IE_"~~ failure cause" of the message.

8.2.4.~~15~~12 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old channel)

8.2.4.~~15~~12.1 ~~———————~~Definition

8.2.4.~~15~~12.2 Conformance requirement

The UE shall revert to the old configuration when the UE has failed to reconfigure the new transport channel requested, and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE ~~massage~~message to UTRAN.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~15~~12.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.~~15~~12.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes the new transport channel parameters. However, SS does not reconfigure the new transport channel accordingly. Hence, the UE shall experience a failure in the reconfiguration process. After T312 expiry, the UE shall revert to the old channel configuration. Then the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason "physical channel failure" in IE "~~failure cause~~".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	Message includes IE "Downlink DPCH Info" and IE "Uplink DPCH Info"
2				SS does not reconfigure the transport channel causing the UE to detect a physical channel failure.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	After T312 expiry the UE shall revert to the old configuration and transmit this message.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	TRNSPORT CHANNEL RECONFIGURATION FAILURE
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.~~15~~12.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE "~~failure cause~~".

8.2.4.~~16~~13 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.~~16~~13.1 ~~————————~~Definition

8.2.4.~~16~~13.2 Conformance requirement

The UE shall initiate a RRC re-establishment procedure when it fails to revert to the old channel configuration, following a physical channel failure in the transport channel reconfiguration procedure.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~16~~13.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure, when the UE cannot reconfigure the new transport channel for the failure of L1 configuration and subsequently fails to revert to the old configuration after T312 expiry.

8.2.4.~~16~~13.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_FACH state in a cell 1. SS begins to broadcast the BCCH of cell 2 at a power level lower than in cell 1, and then it transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE in cell 1. The message includes a new set of transport channel parameters. However, the SS does not reconfigure L1 and the new transport channel accordingly. At the same time, it deletes the current channel configurations in cell 1. As a result, the UE cannot reconfigure the new transport channel and an attempt to revert to the old configuration fails. The UE shall then find that cell 2 is available, camp onto it, and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message. This message shall include the IE "U-RNTI" on the uplink CCCH. When the SS receives this message, it transmits an RRC CONNECTION RE-ESTABLISHMENT message, which specifies a new TFCS according to the new transport channel used. After the UE receives this message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to transmit BCCH in cell 2
2		←	TRANSPORT CHANNEL RECONGURATION	
3				The SS does not reconfigure L1 and transport channel, it also deletes its current contexts for cell 1.
4				The UE shall experience a failure to reconfigure a new transport channel and also fails to revert to old configuration.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find cell 2, camp onto it, and then transmits this message which includes the IE "U-RNTI".
6		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.~~None~~

8.2.4.~~16~~13.5 Test requirement

After step 4 the UE shall find the presence of cell 2, enter CELL_FACH state, and transmit RRC RE-ESTABLISHMENT REQUEST message to attempt to setup the RRC connection in cell 2.

After step 7 the UE shall successfully re-establish the RRC connection in cell 2.

8.2.4.~~17~~14 Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.~~17~~14.1 ~~————————~~Definition

8.2.4.~~17~~14.2 Conformance requirement

If the UE is reconfiguring itself after receiving a radio bearer message other than TRANSPORT CHANNEL RECONFIGURATION, and when the UE subsequently receive a TRANSPORT CHANNEL RECONFIGURATION message and UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause".~~The UE shall keep its old configuration when it receives another TRANSPORT CHANNEL RECONFIGURATION message before it can configure the transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received earlier. The UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "incompatible simultaneous reconfiguration" in IE" failure cause".~~

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.~~17~~14.3 Test purpose

To confirm that the UE keeps its configuration and transmits ~~an~~a TRANSPORT CHANNEL RECONFIGURATION FAILURE message when it receives ~~another~~ a TRANSPORT CHANNEL RECONFIGURATION message before the completion of configuration from an earlier request ~~for transport channel reconfiguration~~.

8.2.4.~~17~~14.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before it has ~~successfully~~ configured ~~the transport channel~~ based on an earlier request. It shall ~~respond by keeping~~ keep the old configuration and then transmitting ~~an~~a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The content of the failure message shall indicate "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER ~~TRANSPORT CHANNEL~~ RECONFIGURATION	Includes the IE "Uplink DPCH info"
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the ~~activation~~ Activation time specified in step 1.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.

TRANSPORT CHANNEL RECONFIGURATION (Step ~~1~~2)

For TRANSPORT CHANNEL RECONFIGURATION in step 2, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.~~The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.~~17~~14.5 Test requirement

After step 2 the UE shall keep its configuration and transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value to "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.4.~~18~~15 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.4.~~18~~15.1 ~~————————~~Definition

8.2.4.~~18~~15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes a spare value in the mandatory IE "~~-~~DRX indicator". The UE shall then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message, specifying "protocol error" in IE "~~-~~failure cause" and also "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~18~~15.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives a TRANSPORT CHANNEL RECONFIGURATION message which uses a spare value in the mandatory IE "~~-~~DRX indicator".

8.2.4.~~18~~15.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: DCCH+DTCH~~CELL~~ _FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a spare value in the mandatory IE "~~-~~DRX indicator". The UE shall keep the old configuration and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall contain the value "protocol error" in IE "~~-~~failure cause" and also "Information element value not comprehended" in IE "~~-~~Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	Contains ~~a~~an error in one of the mandatory IE in the message.
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents ~~of TRANSPORT~~of TRANSPORT CHANNEL ~~RECONFIGURATION message~~RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause - Failure cause - Protocol error information - Protocol error cause	 Protocol error Information element value not comprehended
Other information element	Not checked

8.2.4.~~18~~15.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit ~~a TRANSPORT~~a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The content of the message shall specify "protocol error" in IE "~~-~~failure cause" and also "Information element value not comprehended" in IE " Protocol error cause".

8.2.4.~~19~~16 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success with no transport channel type switching

8.2.4.~~19~~16.1 ~~————————~~Definition

8.2.4.~~19~~16.2 Conformance requirement

The UE shall remain in CELL_FACH state ~~and transition~~and transition from CELL_FACH to CELL_FACH in the another cell requested in the received TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~19~~16.3 Test purpose

To confirm that the UE reconfigures a new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.~~19~~16.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 2 cells Cell 1 is active, Cell 2 is inactive

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters for Hand Over. The UE reconfigures the new transport channel and transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	TRANSPORT CHANNEL RECONGURATION	Including Primary CPICH Info
3				Reconfiguration of a new transport channel
4		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A.~~None~~

8.2.4.~~19~~16.5 Test requirement

After step 3 the UE ~~shall transit~~shall transit from CELL_FACH to CELL_FACH in the another cell and continue to communicate with the SS on the ~~DCCH using~~DCCH using the existing transport channel.

~~8.2.4.20 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)~~

~~8.2.4.20.1 Definition~~

~~8.2.4.20.2 Conformance requirement~~

~~The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported~~includes unsupported ~~configuration parameters and transmit a TRANSPORT~~a TRANSPORT CHANNEL RECONFIGURATION~~CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “configuration unacceptable” in IE ” failure cause~~

~~Reference~~

~~3GPP TS 25.331 clause~~25.331 clause ~~8.2.4~~

~~8.2.4.20.3 Test purpose~~

~~To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received TRANSPORT CHANNEL RECONFIGURATION message specifies unsupported configuration parameters.~~

~~8.2.4.20.4 Method of test~~

~~Initial Condition~~

~~System Simulator :~~Simulator: ~~1 cell~~

~~UE :~~UE: ~~PS-DCCH+DTCH~~CELL_FACH~~(state 6-11) as specified in clause 7.4 of TS 34.108~~

~~Test Procedure~~

~~The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters of the UE. The UE transmits a~~

~~TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the event "configuration unacceptable" in IE " failure cause".~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~←~~		~~TRANSPORT CHANNEL RECONGURATION~~	~~Including unsupported configuration by the UE~~
~~2~~	~~→~~		~~TRANSPORT CHANNEL RECONFIGURATION FAILURE~~	~~The UE shall not change the settings used by the transport channel.~~

~~Specific Message Contents~~

~~TRANSPORT CHANNEL RECONFIGURATION~~

~~The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to~~ the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A~~those of the default contents of layer 3 messages for RRC tests with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~TrCH Information Elements~~ ~~Uplink transport Channels~~ ~~Added or Reconfigured TrCH information list~~ ~~Downlink transport Channels~~ ~~Added or Reconfigured TrCH information list~~	 ~~Number of Transport blocks = 4096~~ ~~Selected value as the UE can not support.~~ ~~Number of Transport blocks = 4096~~

~~TRANSPORT CHANNEL RECONFIGURATION FAILURE~~

~~Information Element~~	~~Value/remark~~
~~Message Type~~	~~"TRANSPORT CHANNEL RECONFIGURATION FAILURE"~~
~~Failure cause~~	~~Configuration unacceptable~~
~~Other information element~~	~~Not checked~~

~~8.2.4.20.5 Test requirement~~

~~After step 1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "configuration unacceptable" in IE " failure cause".~~

8.2.4.~~21~~17 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Failure (Physical channel failure)

8.2.4.~~21~~17.1 ~~Definition~~

8.2.4.~~21~~17.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a TRANSPORT CHANNEL RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.~~21~~17.3 Test purpose

To confirm that the UE perform a cell reselection and cell update procedure when the it fail to access the assigned physical channel, according to a TRANSPORT CHANNEL RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

8.2.4.~~21~~17.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 3 cells Cell 1 is active, Cell 2 is inactive, Cell 3 is inactive

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a TRANSPORT CHANNEL RECONFIGURATION message, resulting in the UE to attempt to transit from CELL_FACH in cell 1 to CELL_FACH in cell 3. The UE is expected to fail to access the assigned physical channel as the SS ceases downlink transmission in cell 3. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The procedure completes when the SS confirms UE's cell update request.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	TRANSPORT CHANNEL RECONFIGURATION	The message assigns common resources so that the UE is expected to execute a transition from CELL_FACH in cell 1 to CELL_FACH in cell 3
3				The UE shall detect a failure to use the assigned common physical channel and try to perform a cell reselection.
4		→	CELL UPDATE	The UE discover the presence of cell 2 and triggers a cell update procedure.
5		←	CELL UPDATE CONFIRM	SS sends this message so that the UE moves to CELL_PCH state.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_FACH in PS" in Annex A.~~None~~

8.2.4.~~21~~17.5 Test requirement

After step 3 the UE shall discover the presence of cell 2, enter CELL_FACH state, and initiate a cell update procedure in that cell.

~~8.2.4.22 Transport Channel Reconfiguration from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)~~

~~8.2.4.22.1 Definition~~

8.2.4.22.2 Conformance requirement

If the UE is reconfiguring itself after receiving a message and when the UE subsequently receive a TRANSPORT CHANNEL RECONFIGURATION message The UE shall keep its old configuration when the UE receives another TRANSPORT CHANNEL RECONFIGURATION message, before the UE completes the configuration of the transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received earlier. The UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.4

8.2.4.22.3 Test purpose

To confirm that the UE keeps its current configuration, transmits an TRANSPORT CHANNEL RECONFIGURATION FAILURE message when it receives another TRANSPORT CHANNEL RECONFIGURATIONCHANNEL RECONFIGURATION message before the completion of an earlier reconfiguration request.

8.2.4.22.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE has successfully configured the transport channel specified in an earlier message, the UE keeps the old configuration. After that, the UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	Including IE "Uplink DPCH info"
2	←		TRANSPORT CHANNEL RECONFIGURATION	Sent before the time specified in IE "Activation Time Info" of message in step 1 has elapsed.
3	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A.to the corresponding message found in the default contents of layer 3 messages for RRC tests with the following exceptions:

TRANSPORT CHANNEL RECONFIGURATION (Step 1)..

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.22.5 Test requirement

After step 2 the UE shall keep its configuration and transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.4.23 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.4.23.1 Definition

8.2.4.23.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which makes use of a spare value in the mandatory IE " DRX indicator". Then it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message with the value "protocol error" set in IE " failure cause" and also "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.4

8.2.4.23.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if the received TRANSPORT CHANNEL RECONFIGURATION message comprises a spare value in the mandatory IE " DRX indicator".

8.2.4.23.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a spare value in the mandatory IE " DRX indicator". The UE shall keep the old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "protocol error" in IE " failure cause" and also indicating "Information element value not comprehended" in IE " Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Contains an illegal value for a mandatory IE
2		→	TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.4.23.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a TRANSPORTa TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify "protocol error" in IE " failure cause" and set value "Information element value not comprehended" in IE " Protocol error cause".

8.2.4.18 Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Success (Subsequently received)

8.2.4.18.1 ~~———————~~Definition

8.2.4.18.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message, the UE shall ignore the new TRANSPORT CHANNEL RECONFIGURATION message and configure according to the first TRANSPORT CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.18.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message it ignores the second TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.18.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE configures the radio bearer, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Including IE "Uplink DPCH info"
2		←	TRANSPORT CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in TRANSPORT CHANNEL SETUP message of step 1.
3		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

Specific Message Contents

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A ~~the corresponding message found in the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.4.18.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

~~8.2.4.25 Transport Channel Reconfiguration from CELL_DCH to CELL_FACH: Success (Subsequently received)~~

~~8.2.4.25.1 Definition~~

~~8.2.4.25.2 Conformance requirement~~

~~If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message, the UE shall ignore the new TRANSPORT CHANNEL RECONFIGURATION message and configure according to the first TRANSPORT CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.~~

~~Reference~~

~~3GPP TS 25.331 clause 8.2.4~~

~~8.2.4.25.3 Test purpose~~

~~To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message it ignores the second TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message.~~

~~8.2.4.25.4 Method of test~~

~~Initial Condition~~

~~System Simulator: 1 cell~~

~~UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108~~

~~Test Procedure~~

~~The UE is in the CELL_DCH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE configures the radio bearer, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~←~~		~~TRANSPORT CHANNEL RECONFIGURATION~~	~~Including IE "PRACH info (for RACH)"~~
~~2~~	~~←~~		~~TRANSPORT CHANNEL RECONFIGURATION~~	~~Sent before the activation time requested in step 1 has passed.~~
~~3~~	~~→~~		~~TRANSPORT CHANNEL RECONFIGURATION COMPLETE~~	~~The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.~~

~~Specific Message Contents~~

~~TRANSPORT CHANNEL RECONFIGURATION (Step 1)~~

~~The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~Activation Time Info~~	~~[256+Current CFN-[current CFN mod 8 + 8]]MOD 256~~

~~8.2.4.25.5 Test requirement~~

~~After step 3 the UE shall communicate with the SS on the radio bearer specified in the TRANSPORT CHANNEL RECONFIGURATION message in step 1.~~

8.2.4.19 Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.4.19.1 ~~Definition~~

8.2.4.19.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message, the UE shall ignore the new TRANSPORT CHANNEL RECONFIGURATION message and configure according to the first TRANSPORT CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.4

8.2.4.19.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message it ignores the second TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.19.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE configures the radio bearer, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Includes the IE "Uplink DPCH info"
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the activation time specified in step 1.
3		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.4.19.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

8.2.4.27 Transport Channel Reconfiguration from CELL_FACH to CELL_FACH: Success (Subsequently received)

8.2.4.27.1 Definition

8.2.4.27.2 Conformance requirement

If the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message, the UE shall ignore the new TRANSPORT CHANNEL RECONFIGURATION message and configure according to the first TRANSPORT CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.27.3 Test purpose

To confirm that if the UE receives a TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the radio bearer according to the previous TRANSPORT CHANNEL RECONFIGURATION message it ignores the second TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.27.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE configures the radio bearer, the UE ignores the new TRANSPORT CHANNEL RECONFIGURATION message and configures according to the previous TRANSPORT CHANNEL RECONFIGURATION message. Finally, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Including IE "PRACH info (for RACH)"
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the time specified in IE "Activation Time Info" of message in step 1 has elapsed.
3		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE ignores the TRANSPORT CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the TRANSPORT CHANNEL RECONFIGURATION message in step 1.

Specific Message Contents

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A with the following exceptions:

~~TRANSPORT CHANNEL RECONFIGURATION (Step 1)~~

~~Information Element~~	~~Value/remark~~
~~Activation Time~~	~~[256+Current CFN-[current CFN mod 8 + 8]]MOD 256~~

~~8.2.4.27.5 Test requirement~~

~~After step 3 the UE shall communicate with the SS on the radio bearer specified in the TRANSPORT CHANNEL RECONFIGURATION message in step 1.~~

8.2.5 Transport format combination control

8.2.5.1 Transport format combination control in ~~-~~CELL_DCH~~-~~: restriction

8.2.5.1.1 ~~Definition~~

8.2.5.1.2 Conformance requirement

The UE shall change the subset of allowed transport format combination of uplink when the UE receives TRANSPORT FORMAT COMBINATION CONTROL message.

Reference

3GPP TS 25.331 clause 8.2.5

8.2.5.1.3 Test purpose

To confirm that the UE do not transmit data on the DTCH in the uplink direction, following the reception of TRANSPORT FORMAT COMBINATION CONTROL message sent from the SS, which is set to "zero" in IE " Minimum allowed Transport format combination index".

8.2.5.1.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1cell

~~UE :~~UE: DCCH+DTCH~~CELL~~ _DCH(state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE establishes a radio access bearer on the DCH for a communication. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which indicates that only TFC_0 is allowed on the uplink for DCH transport channel. The UE shall reconfigure the TFCS, stop any transmission on DTCH logical channel and then continues the communication on DCCH only.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE s in CELL_DCH state with a DTCH logical channel allocated for communication between UE and SS
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Set to “zero” in IE ”-Minimum allowed Transport format combination index”.
3				The UE shall not transmit any data on the DTCH.

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
TrCH information elements -Minimum allowed Transport format combination index	Set to “zero”

8.2.5.1.5 Test requirement

After step 2 the UE shall stop transmitting data on the DTCH in the uplink.

8.2.5.2 Transport format combination control in CELL_DCH: release a restriction

8.2.5.2.1 ~~———————~~Definition

8.2.5.2.2 Conformance requirement

The UE shall change the subset of allowed transport format combination of uplink when it receives TRANSPORT FORMAT COMBINATION CONTROL message, specifying that an existing restriction for the usage of TFCS be removed.

Reference

3GPP TS 25.331 clause 8.2.5

8.2.5.2.3 Test purpose

To confirm that the UE resume transmission of data on the DTCH on the uplink, following the reception of TRANSPORT FORMAT COMBINATION CONTROL message which is set to “one” as the prior used transport format combination number in IE ”-Minimum allowed Transport format combination index”.

8.2.5.2.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1cell

~~UE :~~UE: DCCH+DTCH~~CELL~~ DCH(state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108~~ with DTCH allocated but fully restricted~~.

Test Procedure

The UE is in CELL_DCH state with DTCH allocated but fully restricted. The UE cannot transmit the data on the DTCH, as a result of the restriction on the transport format combination. Next, the SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message which is set to “one” in IE ”-Minimum allowed Transport format combination index”

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				No data transmission on the DTCH with a restriction in the uplink direction, following the execution of test 8.1.2.5.1.
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Set to "one" IE "Minimum allowed Transport format combination index".
3				The UE begins to transmit the data on the DTCH.

Specific Message Contents

TRANSPORT FORMAT COMBINATION CNTROL

Information Element	Value/remark
TrCH information elements -Minimum allowed Transport format combination index	Set to "one"

8.2.5.2.5 Test requirement

After step 2 the UE shall begin to transmit the data on the DTCH in the uplink.

8.2.5.3 Transport format combination control in CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.5.3.1 Definition

8.2.5.3.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another TRANSPORT FORMAT COMBINATION CONTROL message before the UE reconfigures the transport channel completely according to a similar message received earlier. The UE shall transmit ~~an~~a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC indicating "incompatible simultaneous reconfiguration" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.5

8.2.5.3.3 Test purpose

To confirm that after the UE receives TRANSPORT FORMAT COMBINATION CONTROL ~~massage~~message, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keeps the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL ~~massage~~message is received.

8.2.5.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE establishes a radio access bearer on the DCH for to be used for user-data exchange. SS sends a TRANSPORT CHANNEL RECONFIGURATION message on the downlink DCCH, to request that the channel coding scheme for a DCH be changed. After this message has been acknowledged by the UE RLC-AM entity, the SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which includes a full restriction of the TFCS used in the uplink. The UE shall detect a failure to reconfigure the TFCS, then it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the uplink DCCH. After the activation time specified in the TRANSPORT CHANNEL RECONFIGURATION message has elapsed, the UE shall send TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH. SS verifies that reconfiguration is completed by checking that the user-data exchange is resumed on DTCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is in CELL_DCH connected state, with a DTCH logical channel for user-data communication
2	←		TRANSPORT CHANNEL RECONFIGURATION	Requesting for a change in semi-static transport format for DCH carrying the DTCH. The dynamic part remains unchanged.
3	←		TRANSPORT FORMAT COMBINATION CONTROL	Requesting for a full restriction on TFCS for the DCH carrying DTCH.
4	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall keep the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL message was received
5				The UE does not change the configuration of TFC and the UE continues reconfigure the affected transport channel.
6			TRANSPORT CHANNEL RECONFIGURATION COMPLETE	UE shall resume exchange of data over the DTCH logical channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A ~~those in the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
TrCH Information Elements - Uplink transport channels - Added or reconfigured TrCH information list - Transport channel identity - Semi-Static Transport Format Information - Type of channel coding	 2 Select a different coding scheme from default message content

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
DPCH TFCS in Uplink - Subset Representation - Allowed TFIs	Restricted TrCH information Not Present (All TFCs are restricted)

TRANSPORT FORMAT COMBINATION CONTROL FAILURE

Information Element	Value/remark
Message Type	"TRNSPORT FORMAT COMBINATION CNTROL FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.5.3.5 Test requirement

After step 3 the UE continue the transport channel reconfiguration as if no TRANSPORT FORMAT COMBINATION CONTROL message was received. Then it shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, stating the reason "Incompatible simultaneous reconfiguration" in IE "Failure cause".

After step 6 the UE shall resume communication with SS on DTCH using the requested channel coding scheme on the transport blocks.

8.2.5.4 Transport format combination control in CELL_DCH: Failure (Invalid message reception)

8.2.5.4.1 Definition

8.2.5.4.2 Conformance requirement

The UE shall keep old configuration when it receives a TRANSPORT FORMAT COMBINATION CONTROL message which using a spare value in the mandatory IE "Minimum allowed Transport format combination index". It shall then transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message, indicating "protocol error" in IE "failure cause" and "Information element value not comprehended" in IE "Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.5

8.2.5.4.3 Test purpose

To confirm after the UE receives an invalid TRANSPORT FORMAT COMBINATION CONTROL ~~massage~~message, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keep the TFC subset as if no TRANSPORT FORMAT COMBINATION CONTROL ~~massage~~message has been received.

8.2.5.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: DCCH+DTCH~~CELL~~ DCH(state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE establishes a radio access bearer on the DCH for a communication. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which uses a spare value in the mandatory IE "Minimum allowed Transport format combination index". The UE shall then transmit TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and continues the communication using the radio access bearer.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				RRC connected state on the DTCH for a communication
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Contains an error in a mandatory IE.
3	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall not change the configuration

Specific Message Contents

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
DPCH TFCS in uplink - Minimum allowed Transport format combination index	Set to the value "MaxTFCValue"

TRANSPORT FORMAT COMBINATION CNTROL FAILURE

Information Element	Value/remark
Message Type Failure cause Protocol error information -Protocol error case Other information element	"TRNSPORT FORMAT COMBINATION CNTROL FAILURE" "protocol error" Information element value not comprehended Not checked

8.2.5.4.5 Test requirement

After step 3 the UE shall keep its configuration before the TRANSPORT FORMAT COMBINATION CONTROL message was received and transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC. The UE shall set the value "protocol error" in IE "Failure cause" and the value "information element not comprehended" in IE "protocol error information". The UE shall continue communicate with SS using the radio access bearer.

8.2.6 Physical channel reconfiguration

8.2.6.1 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Success

8.2.6.1.1 Definition

8.2.6.1.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received, which is used for hard handover purposes. It shall be able to communicate with the UTRAN on the new frequency subsequently.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.6

8.2.6.1.3 Test purpose

To confirm that the UE reconfigures the physical channel parameters according to a PHYSICAL CHANNEL RECONFIGURATION message received from the SS. After the reconfiguration, the UE shall resume normal transmission and reception operations.

8.2.6.1.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 2 cells - cell 1 and cell 6 are active. The $Q_{rxlevmin}$ and $Q_{rxqualmin}$ ~~-~~values in SYSTEM INFORMATION BLOCK TYPE 3 and 4 messages of cell 6 is changed to –90dBm and –20dB respectively

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _DCH(state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes a new physical channel parameter specified in the “Frequency Info” IE. The UE shall reconfigure itself and tune to the new physical channel and transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 6 using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	Including new frequency information.
2				UE shall suspend uplink activities to cell 1 and begin to reconfigure the physical channel parameters.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled “Packet to CELL_DCH from CELL_DCH in PS“ in Annex A, with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
Downlink information for each radio links	Same downlink UARFCN as used for cell 6
- Primary CPICH info	
- Primary Scrambling Code	350

8.2.6.1.5 Test requirement

After step 2 the UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 6, and then continue to communicate with SS on the new physical channel.

8.2.6.2 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency-): Failure (Unsupported or Unacceptable configuration)

8.2.6.2.1 ~~————————~~Definition

8.2.6.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message which includes an unsupported configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason “configuration unacceptable” in IE ”-failure cause”.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.6

8.2.6.2.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters for the UE.

8.2.6.2.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes unsupported configuration parameters as the frequency cannot be supported by the UE. The UE transmits a PHYSICAL -CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration unacceptable" in IE_"-failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	Includes an unsupported configuration as the frequency cannot be supported by the UE
2	→		PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the physical channel and continue to communicate using the old configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A ~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.6.2.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration unacceptable" in IE_"-failure cause".

8.2.6.3 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency-): Failure (Physical channel failure and reversion to old channel)

8.2.6.3.1 ~~———————————~~Definition

8.2.6.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by the expiry of timer T312, and then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "physical channel failure" in IE "~~-~~failure cause".

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.6

8.2.6.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new physical channel according to the received PHYSICAL CHANNEL RECONFIGURATION message by timer T312 expiry.

8.2.6.3.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the ~~UE which~~UE which includes new frequency parameters. However, the ~~SS does~~SS does not reconfigure the new physical channel. The UE is expected to encounter a failure to reconfigure the new physical channel and after T312 timer expiry the UE shall revert to the old configuration. Finally, the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC specifies "physical channel failure" in IE "~~-~~failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	Including a new frequency information
2				The SS does not reconfigure the physical channel so that the UE fails to reconfigure to the new physical channel.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiry, the UE shall revert to the old configuration and transmits this message.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.6.3.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the value "physical channel failure" in IE "failure cause".

8.2.6.4 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Physical channel failure and reversion failure)

8.2.6.4.1 Definition

8.2.6.4.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration, after the detection of physical channel failure during the course of executing a physical channel reconfiguration procedure.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.6

8.2.6.4.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot reconfigure the new physical channel for the failure of L1 configuration and for the failure of the reversion to the old configuration.

8.2.6.4.4 Method of test

Initial Condition

System Simulator: 2 cells- Cell 1 is active, Cell 2 is inactive

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes new uplink and downlink frequency parameters and does not reconfigure L1. The UE is expected to fail to reconfigure the new physical channel and tries to revert to the old configuration after T312 expiry. The SS then deletes the old physical channel so that the UE would perform cell reselection and finds cell 2. It shall then transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE "U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS transmits the BCCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	The message includes new frequency information
3				SS does not reconfigure the physical channel to reflect the changes in step 2, at the same time, it deletes the old configuration so the UE cannot reconfigure the new physical channel and cannot revert to the old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds a new cell.2 and then transmits this message which includes the IE "U-RNTI".
5		←	RRC CONNECTION RE-ESTABLISHMENT	This message indicates a new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_DCH in PS" in Annex A.~~None.~~

8.2.6.4.5 Test requirement

After step 3 the UE shall find the availability of cell 2, enter CELL_FACH state, and transmits RRC CONNECTION RE-ESTABLISHMENT message using RLC-TM mode on the uplink DCCH.

After step 6 the UE shall be able to successfully re-establish an RRC connection in cell 2.

8.2.6.5 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Incompatible simultaneous reconfiguration)

8.2.6.5.1 ~~Definition~~

8.2.6.5.2 Conformance requirement

If the UE is reconfiguring itself after receiving a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION message, and when the UE subsequently receive a PHYSICAL CHANNEL RECONFIGURATION message and the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause".~~The UE shall keep its old configuration when the UE receives another PHYSICAL CHANNEL RECONFIGURATION message before it completes the current reconfiguration according to an earlier PHYSICAL CHANNEL RECONFIGURATION message. The UE shall transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "incompatible simultaneous reconfiguration" in IE"failure cause".~~

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.5.3 Test purpose

To confirm that the UE keeps its current configuration when it receives ~~another~~ a PHYSICAL CHANNEL RECONFIGURATION message before the completion of an existing ~~physical channel reconfiguration .~~ configuration.

8.2.6.5.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before it reconfigures the physical channel, the UE keeps the old configuration and transmits an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall indicate "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER ~~PHYSICAL CHANNEL~~ RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	Sent before the "Activation Time Info" specified in the message in step 1 has elapsed.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (step 2)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A ~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION FAILURE (step 3)

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.5.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit ~~an~~a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, which shall be set to "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.6.6 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Invalid message reception)

8.2.6.6.1 ~~Definition~~

8.2.6.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message, which includes the spare value in the mandatory IE "DRX indicator". It shall then transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message which contains the value "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.6.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a PHYSICAL CHANNEL RECONFIGURATION message which uses a spare value in the mandatory IE "DRX indicator".

8.2.6.6.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~ _DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, with a spare value in the mandatory IE "DRX indicator". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with a value "protocol error" in IE "failure cause" and also a value "Information element value not comprehended" in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	This message contains an error in one of the mandatory IEs.
2		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_DCH in PS" found in Annex A ~~those found in the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.6.6.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting value "protocol error" in IE " failure cause" and also setting value "Information element value not comprehended" in IE "-Protocol error cause".

8.2.6.7 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success

8.2.6.7.1 ~~———————~~Definition

8.2.6.7.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION ~~-~~message when asked to perform a transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS 25.331 ~~-~~clause 8.2.6

8.2.6.7.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

8.2.6.7.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The UE shall then reconfigure the new physical channel according to this message. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the RACH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2				Reconfiguration of physical channel
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS” in Annex A.~~None.~~

8.2.6.7.5 Test requirement

After step 3 the UE shall transit from CELL_DCH to CELL_FACH and continue to communicate with SS on the common physical channel.

~~8.2.6.8 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)~~

~~8.2.6.8.1 Definition~~

~~8.2.6.8.2 Conformance requirement~~

~~The UE shall keep its old configuration when it receives a PHYSICAL CHANNEL RECONFIGURATION message which includes unsupported configuration parameters. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason “configuration unacceptable” indicated in IE_” failure cause”.~~

~~Reference~~

~~3GPP TS 25.331 clause 8.2.6~~

~~8.2.6.8.3 Test purpose~~

~~To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters.~~

~~8.2.6.8.4 Method of test~~

~~Initial Condition~~

~~System Simulator : 1 cell~~

~~UE : PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108~~

~~Test Procedure~~

~~The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters. Specifically, the frequency cannot be supported by the UE. The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which and indicating “configuration unacceptable” in IE_” failure cause”.~~

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	The message specifies the usage of an unsupported configuration for the UE
2		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the physical channel and continue to communicate with the SS using the original configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.6.8.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration unacceptable" specified in IE " failure cause".

8.2.6.98 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Failure (Physical channel failure)

8.2.6.98.1 Definition

8.2.6.98.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, during the transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS 25.331 clause25.331 clause 8.2.6

8.2.6.98.3 Test purpose

To confirm that the UE perform a cell reselection and cell update procedure when the it fail to access the assigned physical channel, according to a PHYSICAL CHANNEL RECONFIGURATION message, during the transition from CELL_DCH to CELL_FACH.

8.2.6.~~9~~8.4 Method of test

Initial Condition

System Simulator-: 2 cells Cell 1 is active, Cell 2 is inactive

UE-: PS-DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a PHYSICAL CHANNEL RECONFIGURATION message, resulting in the UE to attempt to transit from CELL_DCH to CELL_FACH. The UE is expected to fail to access the assigned physical channel as the SS ceases downlink transmission in cell 1. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The procedure completes when the SS confirms UE's cell update request.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	The message assigns common resources so that the UE is expected to execute a transition from CELL_DCH to CELL_FACH
3				The UE shall detect a failure to use the assigned common physical channel and try to perform a cell reselection.
4		→	CELL UPDATE	The UE discover the presence of cell 2 and triggers a cell update procedure.
5		←	CELL UPDATE CONFIRM	SS sends this message so that the UE moves to CELL_PCH state.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.~~None~~

8.2.6.~~9~~8.5 Test requirement

After step 3 the UE shall discover the presence of cell 2, enter CELL_FACH state, and initiate a cell update procedure in that cell.

~~8.2.6.10 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)~~

~~8.2.6.10.1 Definition~~

~~8.2.6.10.2 Conformance requirement~~

~~If the UE is configuring itself after receiving a message and when the UE subsequently receive a PHYSICAL CHANNEL RECONFIGURATION messageand the The UE shall keep its old configuration when it receives another PHYSICAL CHANNEL RECONFIGURATION message before the existing reconfiguration request has been completed. The UE shall transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE~~

message on the DCCH using AM RLC, indicating the reason “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.10.3 Test purpose

To confirm that the UE keeps its original configuration when the UE receives a second PHYSICAL CHANNEL RECONFIGURATION message before it reconfigures the physical channel according to an earlier PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.10.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the physical channel, the UE shall keep the old configuration and transmits an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall specify value “incompatible simultaneous reconfiguration” in IE_”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the time specified in “Activation Time Info” in the message of step 1.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN [current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.10.5 Test requirement

After step 2 the UE shall keep its old configuration, transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, and set the cause “incompatible simultaneous reconfiguration” in IE “failure cause”.

8.2.6.11 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.6.11.1 Definition

8.2.6.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message which includes the spare value in the mandatory IE " DRX indicator" ". It shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message, indicating "protocol error" in IE " failure cause" and indicating "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.11.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received a PHYSICAL CHANNEL RECONFIGURATION message uses a spare value in the mandatory IE " DRX indicator".

8.2.6.11.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which contains a spare value in the mandatory IE " DRX indicator". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, which comprises the reason "protocol error" in IE " failure cause" and reason "Information element value not comprehended" in IE " Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	The message contains a error in one of the mandatory IE.
2		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

PHYSICAL CHANNEL RECONFIGURATION FAILURE

~~Information Element~~	~~Value/remark~~
~~Message Type~~ ~~Failure cause~~ ~~- Failure cause~~ ~~- Protocol error information~~ ~~- Protocol error cause~~ ~~Other information element~~	 ~~Protocol error~~ ~~Information element value not comprehended~~ ~~Not checked~~

~~8.2.6.11.5 Test requirement~~

~~After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The failure message shall specify "protocol error" in IE " failure cause" and include "Information element value not comprehended" in IE " Protocol error cause".~~

8.2.6.~~12~~9 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success

8.2.6.~~12~~9.1 ~~Definition~~

8.2.6.~~12~~9.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL ~~RECONFIGURATION message~~RECONFIGURATION message, which triggers a transition from CELL_FACH to CELL_DCH.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.6

8.2.6.~~12~~9.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message received from the UTRAN, in the case of an assignment of dedicated physical resource from the common physical channels used previously by the UE.

8.2.6.~~12~~9.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to start a transition from CELL_FACH to CELL_DCH. The UE shall reconfigure the new physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2				The UE shall reconfigure the physical channel in order to start using the dedicated channels allocated.
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled “Packet to CELL_DCH from CELL_FACH in PS” in Annex A.~~None.~~

8.2.6.~~12~~9.5 Test requirement

After step 3 the UE shall transit from CELL_FACH to CELL_DCH and continue to communicate with SS on the dedicated physical channel.

8.2.6.~~13~~10 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Unsupported or Unacceptable configuration)

8.2.6.~~13~~10.1 ~~——————~~Definition

8.2.6.~~13~~10.2 Conformance requirement

The UE shall keep its old configuration when the it receives a PHYSICAL CHANNEL RECONFIGURATION message, which specifies unsupported configuration parameters for the UE. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the cause “configuration unacceptable” in IE ”~~-~~failure cause”.

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.6

8.2.6.~~13~~10.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.6.~~13~~10.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported frequencies for the UE. The PHYSICAL CHANNEL RECONFIGURATION is structured in such a manner as to trigger a transition from CELL_FACH to

CELL_DCH in the UE. The UE shall responds with a PHYSICAL CHANNEL RECONFIGURATION FAILURE message sent on the DCCH using AM RLC, setting "configuration unacceptable" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	Includes unsupported frequencies for the UE
2		→	PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the physical channel configuration, this message shall be sent using the original allocated physical resource.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration unacceptable Not checked

8.2.6.~~13~~10.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, the IE "failure cause" shall be set to "configuration unacceptable".

8.2.6.~~14~~11 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.6.~~14~~11.1 ~~———————~~Definition

8.2.6.~~14~~11.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by timer T312 expiry. It shall report the failure by transmitting a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "physical channel failure" in IE "failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.~~14~~11.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message by the T312 expiry.

8.2.6.~~14~~11.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, requesting it to transit from CELL_FACH to CELL_DCH due to a switch in physical resource reallocation. However, it does not reconfigure the new physical channel accordingly but continue to use the old configuration. Consequently, the UE shall fail to reconfigure the new physical channel, and after T312 expiry the UE attempt to revert to the old configuration. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which reports "physical channel failure" in IE "~~-~~failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2				The SS does not reconfigure the physical channel, hence the UE shall detect a failure to reconfigure to the new physical channel.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiry the UE reverts to the old configuration and transmits this message.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled "Packet to CELL_DCH from CELL_FACH in PS" in Annex A.

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.6.~~14~~11.5 Test requirement

After step 2 the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "physical channel failure" in IE "~~-~~failure cause".

8.2.6.~~15~~12 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.6.~~15~~12.1 ~~————————~~Definition

8.2.6.~~15~~12.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the physical channel reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.~~15~~12.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure after it fails to reconfigure the new physical channel and experiences a subsequent failure to revert to the old configuration.

8.2.6.~~15~~12.4 Method of test

Initial Condition

System Simulator: 2 cells- Cell 1 is active, Cell 2 is inactive

UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108 in cell 1

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, but it does not reconfigure L1 accordingly. This is expected to cause the UE to fail to reconfigure to the new physical channel. As a result, the UE shall try to revert to the old configuration after timer T312 expiry. However, the SS deletes the old physical channel before timer T312 has expired. Therefore, UE shall reselect to cell 2 and sends an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes its previously assigned U-RNTI on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel used. After the UE receives this message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS begins to transmit the BCCH in a cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	
3				The SS does not reconfigure the physical channel and deletes the old configuration. As a result, UE should encounter a failure to reconfigure the new physical channel, then attempt to revert to the old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find cell 2 and then transmit this message with its U-RNTI included.
5		←	RRC CONNECTION RE-ESTABLISHMENT	This message specifies a new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	UE shall send this message in the cell 2.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled “Packet to CELL_DCH from CELL_FACH in PS” in Annex A.~~None.~~

8.2.6.~~15~~12.5 Test requirement

After step 3 the UE shall detect the presence of cell 2, camp onto it, and transmit a RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

After step 6 the UE shall successfully re-establish the RRC connection in cell 2.

8.2.6.~~16~~13 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.6.~~16~~13.1 ~~————————~~Definition

8.2.6.~~16~~13.2 Conformance requirement

If the UE is reconfiguring itself after receiving a radio bearer message other than PHYSICAL CHANNEL RECONFIGURATION message, and when the UE subsequently receive a PHYSICAL CHANNEL RECONFIGURATION message and the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE "failure cause". ~~The UE shall keep its old configuration when it receives another PHYSICAL CHANNEL RECONFIGURATION message before the completion of an earlier physical channel reconfiguration procedure. Then the UE shall transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and indicate "incompatible simultaneous reconfiguration" in IE "failure cause".~~

Reference

3GPP TS 25.331 ~~-~~clause 8.2.6

8.2.6.~~16~~13.3 Test purpose

To confirm that the UE keeps its old configuration, if receives ~~another~~ a PHYSICAL CHANNEL RECONFIGURATION message before it manages to complete ~~re~~configuring ~~the physical channel~~ according to an earlier ~~PHYSICAL CHANNEL RECONFIGURATION~~ message.

8.2.6.~~16~~13.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a ~~PHYSICAL CHANNEL RECONFIGURATION~~ message to ~~command the~~ UE ~~to perform a physical channel reconfiguration~~. ~~The starting time for this action is specified. However, before the passing of the indicated starting time~~Before UE completes configuration due to the latter message, SS sends ~~another~~ a PHYSICAL CHANNEL RECONFIGURATION message. The UE shall ~~stop the existing reconfiguration~~ignore the new message, maintains the old configuration, and transmits ~~an~~a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER ~~PHYSICAL CHANNEL~~ RECONFIGURATION	
2	←		PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the frame number specified in IE "~~activation~~ Activation time info" of the message dispatched in step 1.
3	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

For RADIO BEARER RECONFIGURATION in step 1, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (step 2)

For PHYSICAL CHANNEL RECONFIGURATION in step 2, use the message sub-type indicated as "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ,~~The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION FAILURE (Step 3)

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.~~16~~13.5 Test requirement

After step 2 the UE shall keep its old configuration and transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.6.~~17~~14 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.6.~~17~~14.1 ~~————————~~Definition

8.2.6.~~17~~14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message containing a spare value in the mandatory IE "-DRX indicator". It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message, set "protocol error" in IE " failure cause" and also set "Information element value not comprehended" in IE "-Protocol error cause".

Reference

3GPP TS ~~25.331 clause~~25.331 clause 8.2.6

8.2.6.~~17~~14.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received message uses a spare value in the mandatory IE "DRX indicator".

8.2.6.~~17~~14.4 Method of test

Initial Condition

System ~~Simulator :~~Simulator: 1 cell

~~UE :~~UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which comprises a spare value in the mandatory IE "DRX indicator". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE "failure cause" and also setting "Information element value not comprehended" in IE "Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	Contains a mandatory error due to illegal use of spare value
2		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.6.~~17~~14.5 Test requirement

After step 1 the UE shall keep its old configuration, transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with "protocol error" in IE "failure cause" and also "Information element value not comprehended" in IE "Protocol error cause".

8.2.6.~~18~~15 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Success

8.2.6.~~18~~15.1 ~~————~~Definition

8.2.6.~~18~~15.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION ~~-~~message when asked to perform a transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 ~~-~~clause 8.2.6

8.2.6.~~18~~15.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

8.2.6.~~18~~15.4 Method of test

Initial Condition

System Simulator~~-~~: 2 cells Cell 1 is active, Cell 2 is inactive

UE~~-~~: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS starts to broadcast the BCCH in cell 2 and transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The UE shall then reconfigure the new physical channel according to this message. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the RACH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	
3				Reconfiguration of physical channel
4		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A.~~None.~~

8.2.6.~~18~~15.5 Test requirement

After step 3 the UE shall transit from CELL_FACH to CELL_FACH in the another cell and continue to communicate with SS on the common physical channel.

~~8.2.6.19 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Failure (Unsupported or Unacceptable configuration)~~

~~8.2.6.19.1 Definition~~

8.2.6.19.2 Conformance requirement

The UE shall keep its old configuration when it receives a PHYSICAL CHANNEL RECONFIGURATION message which includes unsupported configuration parameters. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration unacceptable" indicated in IE " failure cause".

Reference

3GPP TS 25.331 clause 25.331 clause 8.2.6

8.2.6.19.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.6.19.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters. Specifically, the frequency cannot be supported by the UE. The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which and indicating "configuration unacceptable" in IE " failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	The message specifies the usage of an unsupported configuration for the UE
2		→	PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the physical channel and continue to communicate with the SS using the original configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

~~Information Element~~	~~Value/remark~~
~~Message Type~~ ~~Failure cause~~ ~~Other information element~~	 ~~Configuration unacceptable~~ ~~Not checked~~

~~8.2.6.19.5 Test requirement~~

~~After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration unacceptable" specified in IE " failure cause".~~

8.2.6.~~20~~16 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Failure (Physical channel failure)

8.2.6.~~20~~16.1 ~~Definition~~

8.2.6.~~20~~16.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.~~20~~16.3 Test purpose

To confirm that the UE perform a cell reselection and cell update procedure when the it fail to access the assigned physical channel, according to a PHYSICAL CHANNEL RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

8.2.6.~~20~~16.4 Method of test

Initial Condition

System Simulator: 3 cells Cell 1 is active, Cell 2 is inactive, Cell 3 is inactive

UE: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a PHYSICAL CHANNEL RECONFIGURATION message, resulting in the UE to attempt to transit from CELL_FACH in cell 1 to CELL_FACH in cell 3. The UE is expected to fail to access the assigned physical channel as the SS ceases downlink transmission in cell 3. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The procedure completes when the SS confirms UE's cell update request.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	The message assigns common resources so that the UE is expected to execute a transition from CELL_FACH in cell 1 to CELL_FACH in cell 3
3				The UE shall detect a failure to use the assigned common physical channel and try to perform a cell reselection.
4		→	CELL UPDATE	The UE discover the presence of cell 2 and triggers a cell update procedure.
5		←	CELL UPDATE CONFIRM	SS sends this message so that the UE moves to CELL_FACH state.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

Use the message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A.~~None~~

8.2.6.~~20~~16.5 Test requirement

After step 3 the UE shall discover the presence of cell 2, enter CELL_FACH state, and initiate a cell update procedure in that cell.

~~8.2.6.21 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)~~

~~8.2.6.21.1 Definition~~

~~8.2.6.21.2 Conformance requirement~~

~~If the UE is reconfiguring itself after receiving a message and when the UE subsequently receive a PHYSICAL CHANNEL RECONFIGURATION message~~The UE shall keep its old configuration when it receives another PHYSICAL CHANNEL RECONFIGURATION message before the existing reconfiguration request has been completed. The UE shall transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating the reason “incompatible simultaneous reconfiguration” in IE”failure cause”.

~~Reference~~

~~3GPP TS 25.331 clause 8.2.6~~

~~8.2.6.21.3 Test purpose~~

~~To confirm that the UE keeps its original configuration when the UE receives a second PHYSICAL CHANNEL RECONFIGURATION message before it reconfigures the physical channel according to an earlier PHYSICAL CHANNEL RECONFIGURATION message.~~

8.2.6.21.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the physical channel, the UE shall keep the old configuration and transmits an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall specify value "incompatible simultaneous reconfiguration" in IE "failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the time specified in "Activation Time Info" in the message of step 1.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.21.5 Test requirement

After step 2 the UE shall keep its old configuration, transmit ana PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, and set the cause "incompatible simultaneous reconfiguration" in IE "failure cause".

8.2.6.22 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.6.22.1 Definition

8.2.6.22.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message which includes the spare value in the mandatory IE " DRX indicator" . It shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message, indicating "protocol error" in IE " failure cause" and indicating "Information element value not comprehended" in IE " Protocol error cause".

Reference

3GPP TS 25.331 clause25.331 clause 8.2.6

8.2.6.22.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received a PHYSICAL CHANNEL RECONFIGURATION message uses a spare value in the mandatory IE " DRX indicator".

8.2.6.22.4 Method of test

Initial Condition

System Simulator :Simulator: 1 cell

UE :UE: PS-DCCH+DTCHCELL_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which contains a spare value in the mandatory IE " DRX indicator". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, which comprises the reason "protocol error" in IE " failure cause" and reason "Information element value not comprehended" in IE " Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	The message contains a error in one of the mandatory IE.
2		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.6.22.5 Test requirement

After step 1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The failure message shall specify "protocol error" in IE " failure cause" and include "Information element value not comprehended" in IE " Protocol error cause".

8.2.6.17 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Success (Subsequently received)

8.2.6.17.1 ~~————————~~Definition

8.2.6.17.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message, the UE shall ignore the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigure according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 ~~-~~clause 8.2.6

8.2.6.17.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message it ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.17.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: PS=DCCH+DTCH~~CELL~~_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the radio bearer, the UE ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of “activation time” specified in PHYSICAL CHANNEL RECONFIGURATION message of step 1.
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A ~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.6.17.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

~~8.2.6.24 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success (Subsequently received)~~

~~8.2.6.24.1 Definition~~

~~8.2.6.24.2 Conformance requirement~~

~~If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message, the UE shall ignore the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigure according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.~~

~~Reference~~

~~3GPP TS 25.331 clause 8.2.6~~

~~8.2.6.24.3 Test purpose~~

~~To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message it ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message.~~

~~8.2.6.24.4 Method of test~~

~~Initial Condition~~

~~System Simulator: 1 cell~~

~~UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108~~

~~Test Procedure~~

~~The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the radio bearer, the UE ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.~~

~~Expected sequence~~

~~Step~~	~~Direction~~		~~Message~~	~~Comment~~
	~~UE~~	~~SS~~		
~~1~~	~~—←~~		~~PHYSICAL CHANNEL RECONFIGURATION~~	
~~2~~	~~—←~~		~~PHYSICAL CHANNEL RECONFIGURATION~~	~~SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 1.~~
~~3~~	~~—→~~		~~PHYSICAL CHANNEL RECONFIGURATION COMPLETE~~	~~The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 1.~~

~~Specific Message Contents~~

~~PHYSICAL CHANNEL RECONFIGURATION (Step 1)~~

~~The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A with the following exceptions:~~

~~Information Element~~	~~Value/remark~~
~~Activation Time Info~~	~~[256+Current CFN-[current CFN mod 8 + 8]]MOD 256~~

~~8.2.6.24.5 Test requirement~~

~~After step 3 the UE shall communicate with the SS on the radio bearer specified in the PHYSICAL CHANNEL RECONFIGURATION message in step 1.~~

8.2.6.18 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success (Subsequently received)

8.2.6.18.1 ~~———————~~Definition

8.2.6.18.2 Conformance requirement

If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message, the UE shall ignore the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigure according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 -clause 8.2.6

8.2.6.18.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message it ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.18.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: PS-DCCH+DTCH~~CELL~~_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the radio bearer, the UE ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 1.
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_DCH from CELL_FACH in PS" found in Annex A ~~those of the default contents of layer 3 messages for RRC tests~~ with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.6.18.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

~~8.2.6.26 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Success (Subsequently received)~~

~~8.2.6.26.1 Definition~~

~~8.2.6.26.2 Conformance requirement~~

~~If the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message, the UE shall ignore the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigure according to the~~

previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.26.3 Test purpose

To confirm that if the UE receives a PHYSICAL CHANNEL RECONFIGURATION message before the UE reconfigures the radio bearer according to the previous PHYSICAL CHANNEL RECONFIGURATION message it ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.26.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the radio bearer, the UE ignores the new PHYSICAL CHANNEL RECONFIGURATION message and reconfigures according to the previous PHYSICAL CHANNEL RECONFIGURATION message received. Finally, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	SS send this message before the expiry of "activation time" specified in PHYSICAL CHANNEL RECONFIGURATION message of step 1.
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE ignores the PHYSICAL CHANNEL RECONFIGURATION message in step 2 and confirms configuration according to the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title "Packet to CELL_FACH from CELL_FACH in PS" found in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

8.2.6.26.5 Test requirement

After step 3 the UE shall communicate with the SS on the radio bearer specified in the PHYSICAL CHANNEL RECONFIGURATION message in step 1.

8.2.7 Physical Shared Channel Allocation[TDD only]

[Editor's note: This message is not included in Release99 so this is FFS.]

8.2.8 PUSCH capacity request[TDD only]

[Editor's note: This message is not included in Release99 so this is FFS.]

8.2.9 Downlink outer loop control

For all following sub-clauses, all references to RRC CONNECTION SETUP messages shall use the default settings provided in clause 9 of TS 34.108, unless otherwise stated.

8.2.9.1 Downlink outer loop control: Increase is Disallowed

8.2.9.1.1 Definition

8.2.9.1.2 Conformance requirement

The UE shall maintain its existing internal target SIR value after it has received DOWNLINK OUTER LOOP CONTROL message which forbids further adjustment of SIR target. This restriction shall be observed even if the UE has detect that the current SIR target is not sufficient to achieve the downlink quality demanded by the UTRAN.

Reference

3GPP TS 25.331 clause 8.2.9

8.2.9.1.3 Test purpose

To confirm that the UE keeps its target SIR value after it receives a DOWNLINK OUTER LOOP CONTROL message with the IE "Downlink Outer Loop Control" set to "TRUE".

8.2.9.1.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: DCCH+DTCH~~CELL~~_DCH(state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 state with the no restriction by the DL outer loop power control

Test Procedure

The UE is in the CELL_DCH state and the SS adjusts its transmission power as the current SIR estimation by the UE has reached the same target SIR value determined autonomously by the UE. This condition can be observed when the TPC command bits on the DPCCH physical channel has stabilized (consistently alternating between values 0 and 1). The SS transmits the DOWNLINK OUTER LOOP CONTROL message, which is set to "TRUE" in IE "Downlink Outer Loop Control". Then the SS generates erroneous frames such that the measured BLER in the UE falls below the value specified in IE "BLER Quality Value" of the RRC CONNECTION SETUP message received during the mobile-terminated RRC connection establishment procedure (described in clause 7.1.2 of TS 34.108). The UE shall detect this change but it maintains the current SIR target value and does not request that SS increases downlink transmission power by ~~setttingsetting~~ TPC in DPCCH to "1".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS adjusts its transmission power as such that the measured value of SIR in the UE is the same as the SIR target value determined by the UE. The target SIR value is chosen by the UE in order that the target BLER value requested by SS is achieved.
2		←	DOWNLINK OUTER LOOP CONTROL	Set value "TRUE" in IE "Downlink Outer Loop Control".
3				The SS starts to generate some error frames. The current SIR target in the UE cannot guarantee target BLER value specified earlier.
4				The UE shall keeps the existing SIR target value and it shall not request that the DL transmission power be increased using TPC bits in DPCCH physical channel.

Specific Message Content

DOWNLINK OUTER POWER CONTROL

Information Element	Value/remark
Integrity check info	Not Present
Downlink Outer Loop Control	
- DL Outer loop control	Increased not allowed
Downlink DPCH power control information	
- DPC Mode	Single

8.2.9.1.5 Test requirement

After step 3 the SS shall keep the target SIR value as same as step1 and it shall not request for the downlink transmission power be increased by setting TPC bits to "1".

8.2.9.2 Downlink outer loop control: Increase is Allowed

8.2.9.2.1 ~~———————~~Definition

8.2.9.2.2 Conformance requirement

The downlink power control procedure is used to control the downlink outer loop power control running in the UE. If the UE receives the DOWNLINK OUTER LOOP CONTROL message with value "FALSE" in IE "Downlink Outer Loop Control", it shall remove any ~~exisiting~~existing restriction of DL outer loop power control. The UE shall begin to increase its DL target SIR value and make the DL transmission power increase until the desired BLER value for the DPCH transport channel has been attained.

Reference

3GPP TS 25.331 clause 8.2.9

8.1.2.9.2.3 Test purpose

To confirm that the UE begins to exercise DL outer loop power control, in order to increase the target SIR value, after it had received a DOWNLINK OUTER LOOP CONTROL message specifying “FALSE” in IE “Downlink Outer Loop Control”.

8.2.9.2.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: DCCH+DTCH~~CELL~~_DCH state(state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 with the restriction by the DL outer loop power control Test Procedure

Test Procedure

The UE is in the CELL_DCH state with the -restriction by the DL outer loop power control. The internal SIR target value determined by the UE is expected to be insufficient to allow the UE to achieve target BLER figure. The SS transmits the DOWNLINK OUTER LOOP CONTROL message, setting the value “FALSE” in IE “Downlink Outer Loop Control”. Then the UE shall update its SIR target value and make the DL transmission power increase.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the same state as the end of step 4 in Clause 8.1.2.9.1.3.
2	←		DOWNLINK OUTER LOOP CONTROL	Set the value “FALSE” in IE “Downlink Outer Loop Control”.
3				The UE shall begin to request that the DL transmission power be increased. This is done by setting the TPC field to “1” in DPCCH.

8.2.9.2.5 Test requirement

After step 3 the SS shall increase the DL transmission power more than step 1.

8.2.9.3 Downlink outer loop control: Failure (Invalid message reception)

8.2.9.3.1 ~~———————~~Definition

8.2.9.3.2 Conformance requirement

The UE shall correctly handle an erroneous DOWNLINK OUTER LOOP CONTROL message, and perform the appropriate error-handling procedure. Specifically, it shall not alter the downlink power control mechanism, which is currently being applied. It shall also transmit a RRC STATUS message using RLC-AM mode on the DCCH channel, state the appropriate failure cause.

Reference

3GPP TS 25.331 -clause 8.2.9

8.2.9.3.3 Test purpose

To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC when it receives a DOWNLINK OUTER LOOP CONTROL message, containing an invalid conditional IE with respect to the state of the UE.

8.2.9.3.4 Method of test

Initial Condition

System Simulator-: 1 cell

UE-: DCCH+DTCH~~CELL~~_DCH(state 6-9 or state 6-10) as specified in clause 7.4 of TS 34.108 and the integrity protection algorithm is not applied.

Test Procedure

The UE is in CELL_DCH state. Test steps 1 to 3 described in clause 8.2.9.1.4 are repeated. Next, the SS transmits another DOWNLINK OUTER LOOP CONTROL message, removing the power increase restriction, and at the same time includes the conditional IE "Integrity Check Info". The UE shall not request for an increase in the downlink transmission power through the TPC command field in DPCCH. It shall transmit RRC STATUS message stating the value "Message extension not comprehended" in IE "protocol cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				Executes step 1 to step 3 in clause 8. 2.9.1.4.
2		←	DOWNLINK OUTER LOOP CONTROL	Contains an unexpected information element "Integrity Check Info" in the message. See specific message content.
3		→	RRC STATUS	The UE shall not request for an increase in downlink transmission power. SS verifies this by checking the TPC command field in uplink DPCCH. The RRC STATUS message shall specify cause "Message extension is not comprehended" in IE "Protocol Error Information"
4				~~The UE shall not request for an increase in downlink transmission power. SS verifies the value of TPC field in DPCCH.~~

Specific Message Content

DOWNLINK OUTER LOOP CONTROL (Step 2)

The contents of DOWNLINK OUTER LOOP CONTROL message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Integrity Check Info - Message authentication code - RRC Message Sequence	Present An arbitrary 32-bits string An arbitrarily chosen integer from range (0….15)

RRC STATUS

Information Element	Value/remark
Message Type	
Protocol error information	Information element value not comprehended
Other information element	Not checked

8.2.9.3.5 Test requirement

After ~~step4~~ step 3 the UE shall keep its restriction for increase in downlink transmission power and not set TPC command fields in uplink DPCCH to "1". It shall transmit an RRC STATUS message on the DCCH using AM RLC, indicating "Information element value not comprehended" in IE "Protocol error cause".

8.3 RRC connection mobility procedure

8.3.1 Cell Update

8.3.1.1 Cell Update: cell reselection in CELL_FACH

8.3.1.1.1 Definition

8.3.1.1.2 Conformance requirement

This procedure is used to update UTRAN with the current cell of the UE after it has ~~perform~~performed a cell reselection in CELL_FACH -state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.1.3 Test purpose

To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell. To confirm that the UE send the correct uplink respond message when executing cell update procedure due to cell reselection.

8.3.1.1.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive

UE: CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_FACH in cell 1~~

Test Procedure

The UE is in the CELL_FACH state, camping onto cell 1. The SS starts to broadcast BCCH on the primary CPICH in cell 2 with a power level greater than that in cell 1. The UE shall find cell 2 to be more suitable for service and hence perform a cell reselection. After the completion of cell reselection, the UE shall transmits a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE "Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE "DRX Indicator" set to "DRX with Cell updating", to the UE on the downlink DCCH. SS verifies that the UE does not send any response to this message. UE shall move to CELL_PCH state. SS then reverses the transmission power of cell 1 and cell 2. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with CELL UPDATE CONFIRM message and allocates new C-RNTI and U-RNTI identities to the UE. The IE "DRX Indicator" is set to "No DRX" in this message. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message. Following this, SS reverses

the transmission power settings for cell 1 and cell 2 again. The UE shall initiate a cell update procedure by transmitting a CELL UPDATE message and stating the cause as 'cell re-selection'. SS replies with a CELL UPDATE CONFIRM message which contains IE "PRACH Info" and IE "Secondary CCPCH Info". The UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge the assignment of the new physical resources.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state in cell 1
2	←		BCCH	The SS starts to broadcast BCCH on the primary CPICH in cell 2 with a power level that is higher than that in cell 1. The UE shall find that the cell 2 is better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 2.
3	→		CELL UPDATE	Value "cell reselection" should be indicated in IE "-Cell update cause"
4	←		CELL UPDATE CONFIRM	IE "DRX Indicator" is set to "DRX with cell updating"
5				SS checks the uplink PRACH channel to verify that no response is sent by UE. SS reverses the transmission power level of cell 1 and cell 2.
6	→		CELL UPDATE	UE shall revert to normal service in cell 1 and set the cause to "cell reselection".
7	←		CELL UPDATE CONFIRM	IE "DRX Indicator" is set to "No DRX". New C-RNTI and U-RNTI identities are assigned to the UE.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE moves to CELL_FACH state and sends this message.
9				SS reverses the transmission power level of cell 1 and cell 2.
10	→		CELL UPDATE	UE shall detect that cell 2 has become stronger.
11	←		CELL UPDATE CONFIRM	IE "DRX Indicator" is set to "No DRX". At the same time, IE "PRACH Info" and IE "Secondary CCPCH Info" are also indicated.
12	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE moves to CELL_FACH state and sends this message on the new PRACH assigned in step 11.

Specific Message Contents

CELL UPDATE (Steps 3 and 6)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A.

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
DRX Indicator	DRX with cell updating

CELL UPDATE CONFIRM (Step 7)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	An arbitrary 20-bits string which is different from original S-RNTI
New C-RNTI	An arbitrary 16-bits string which is different from original C-RNTI.

CELL UPDATE (Step 10)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A.

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'
- S-RNTI	Check to see if set to same string in IE "S-RNTI" in IE "New U-RNTI" of CELL UPDATE CONFIRM message in step 7.
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 11)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	
- Signature	0 and 1
- Available SF	Refer to the parameter set for TS 34.108
- Scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	
- Sub-Channel number	0 and 1
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

8.3.1.1.5 Test requirement

After step 2 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE "Cell update cause".

After step 4 the UE shall not transmit any uplink message in response to the CELL UPDATE CONFIRMATION message received in step 4.

After step 5 the UE shall sent CELL UPDATE message to cell ~~2~~1, in order to indicate that a cell reselection has taken place.

After step 7 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge that it has started to use the new RNTI identities allocated.

After step 9 the UE shall sent CELL UPDATE message to cell ~~1~~2, in order to indicate that a cell reselection has taken place.

After step 11 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the new PRACH physical channel assigned previously in CELL UPDATE CONFIRM message sent in step 11.

8.3.1.2 Cell Update: cell reselection in CELL_PCH

8.3.1.2.1 ~~———————~~Definition

8.3.1.2.2 Conformance requirement

This procedure is to update UTRAN with information of the current cell, after a cell reselection has occurred in CELL_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.2.3 Test purpose

To confirm that the UE, in CELL_PCH state, executes a cell update procedure after the successful reselection of another UTRA cell. To confirm that the UE replies with an appropriate uplink message after receiving CELL UPDATE CONFIRM message during the cell update procedure.

8.3.1.2.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active, Cell 2 is inactive

UE: CELL_PCH (state 6-15) in cell 1 as specified in clause 7.4 of TS 34.108~~CELL_PCH in cell 1~~

Test Procedure

The UE is brought to CELL_PCH state and is camped onto cell 1. The SS starts to broadcast system information on the BCCH on the primary CPICH in cell 2. The transmission level of cell 2 is raised to be higher than in cell 1. When the UE detects the presence of cell 2, it moves to CELL_FACH state and transmits a CELL UPDATE message on the uplink CCCH. The value “cell reselection” shall be set in IE ” Cell update cause” in CELL UPDATE message. Upon reception of CELL_UPDATE message, the SS transmits a CELL UPDATE CONFIRM message which includes the IEs” PRACH info”, ”Secondary CCPCH info” to the UE on the downlink DCCH. In this message, the IE ”DRX Indicator” is set to ”No DRX”. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH and enters CELL_FACH state. SS exchanges the transmission power of cell 1 and cell 2, so that cell 1 becomes the stronger cell. UE shall initiate a cell update procedure again by transmitting CELL UPDATE message. SS replies with a CELL UPDATE CONFIRM message with the IE ”DRX Indicator” set to “DRX with cell updating”. After receiving this message, the UE returns to CELL_PCH state without transmitting any uplink message. Finally, SS reverses the transmission strengths of cell 1 and cell 2 again. This will cause the UE to send CELL UPDATE message on the uplink PRACH of cell 2. SS then sends CELL UPDATE CONFIRM message with the assignment of new C-RNTI and U-RNTI identities. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message as a response.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_PCH state in cell 1
2		←	BCCH	The SS starts to broadcast system information message on BCCH on the primary CPICH from cell 2. The transmission level of cell 2 is set to be higher than that in cell 1. The UE shall find that the cell 2 is better and attempt to perform a cell reselection.
3		→	CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "cell reselection"
4		←	CELL UPDATE CONFIRM	The message includes IEs" PRACH info", "Secondary CCPCH info" and set IE "DRX Indicator" to "No DRX".
5		→	PHYSICAL CHANNEL RECONFIGURATION CONFIRM	UE stays in CELL_FACH state.
6				SS swaps the transmission power of cell 1 and cell 2, making cell 1 the stronger cell.
7		→	CELL UPDATE	
8		←	CELL UPDATE CONFIRM	IE "DRX Indicator" is set to "DRX with cell updating".
9				UE moves to CELL_PCH state. SS exchanges the transmission power of cell 1 and cell 2.
10		→	CELL UPDATE	UE shall re-select to cell 2 and transmit this message.
11		←	CELL UPDATE CONFIRM	Includes IE "new U-RNTI" and IE "new C-RNTI"
12		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

CELL UPDATE (Steps 3, 7 and 10)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A.

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 4)

Use the same message found in step 11 of Clause 8.~~1.~~3.1.1.3

CELL UPDATE CONFIRM (Step 8)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
DRX Indicator	DRX with cell updating

CELL UPDATE CONFIRM (Step 11)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI - SRNC Identity - S-RNTI New C-RNTI	 '0000 0000 0000 0001' An arbitrary 20-bits string which is different from original S-RNTI An arbitrary 16-bits string which is different from original C-RNTI.

8.3.1.2.5 Test requirement

After step 2 the UE shall reselect to cell 2 and transmit a CELL UPDATE message, containing the IE "Cell update cause" set to "cell reselection".

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 9 the UE shall detect that cell 2 has become the stronger cell. It shall send a CELL UPDATE message on cell 2' PRACH channel with the cause set to "cell reselection".

After step 11 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

8.3.1.3 Cell Update: periodical cell update in CELL_FACH

8.3.1.3.1 ~~————————~~Definition

8.3.1.3.2 Conformance requirement

This procedure is to update UTRAN with the current cell information, after the UE has remained in the service area in the CELL_FACH state for a period exceeding the timer value T305.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.3.3 Test purpose

To confirm that the UE executes a periodic cell update procedure following the expiry of timer T305. To confirm that the UE sends a correct response to the CELL UPDATE CONFIRM message. To confirm that the UE listens to the system information messages and then responds to a change in the setting for timer T305.

8.3.1.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_FACH~~

Test Procedure

The UE is in CELL_FACH state. When the UE detects the expiry of timer T305 according to the settings in system information, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH with a cause indicating periodic cell updating. SS replies with a CELL UPDATE CONFIRM message, omitting the IEs "new C-RNTI", "new U-RNTI", "PRACH Info" and "Secondary CCPCH Info". The IE_"DRX Indicator", however, is specified and set to "No DRX". SS verifies that the UE does not transmit any uplink message. SS then waits for T305 to expire again. The UE shall send another CELL UPDATE message to report periodic cell updating. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the IEs "new C-RNTI", "new U-RNTI" to the UE on the downlink DCCH. Then the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH to acknowledge the receipt of the new UE identities. SS once again allows T305 timer to expire, the UE shall transmit CELL UPDATE message for the third time. The new U-RNTI shall be indicated in this message together with the correct updating cause. In this sequence, SS replies with a CELL UPDATE CONFIRM message containing new channel parameters in IEs "PRACH Info" and "Secondary CCPCH Info". The UE shall then send a PHYSICAL CHANNEL RECONFIGURTION COMPLETE message by using the newly allocated PRACH resources. Finally, the content of the SYSTEM INFORMATION BLOCK TYPE 2 is changed to disable periodic cell updating. SS then monitors the uplink DCCH for a period up to the maximum possible value for timer T305 (720minutes) and verifies that no CELL_UPDATE message is received. After this, the SS changes the timer T305 value to 5 minutes. UE shall resume periodic cell updating procedure and transmit CELL_UPDATE message 5 minutes after this modification.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state. SS waits until T305 has expired.
2		→	CELL UPDATE	IE "Cell update cause" shall be set to "Periodic cell updating"
3		←	CELL UPDATE CONFIRM	No RNTI identities are given. No information on PRACH and S-CCPCH are provided.
4				SS verifies that no uplink message is received from UE. SS waits for another period to allow T305 to expire.
5		→	CELL UPDATE	Which is set to "periodic cell update" in IE_"-Cell update cause" for the expiry of timer T305.
6		←	CELL UPDATE CONFIRM	Including IEs" new C-RNTI" , "new U-RNTI" and IE_"DRX Indicator" is set to "No DRX"
7		→	RNTI REALLOCATION COMPLETE	
8				SS waits for a duration to allow timer T305 in the UE to expire.
9		→	CELL UPDATE	
10		←	CELL UPDATE CONFIRM	IEs "PRACH Info" and "Secondary CCPCH Info" are included.
11		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
12		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 2	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents). It waits for 720 minutes and checks that no CELL UPDATE message is transmitted on uplink PRACH channel.

13	←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 2	SS modified the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents) again.
14	→	CELL UPDATE	UE shall transmit this message 5 minutes after step 13, with “cell update cause” set to “periodic cell updating”
15	←	CELL UPDATE CONFIRM	

Specific Message Contents

CELL UPDATE (Step 2 and 5)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Integrity check info AM_RLC error indicator (for C-plane) AM_RLC error indicator (for U-plane) Hyper frame number Cell Update Cause Protocol error indicator Measured results on RACH Protocol error information	 Check to see if set to ‘0000 0000 0001’ Check to see if set to ‘0000 0000 0000 0000 0000 0001’ Not checked Check to see if set to ‘FALSE’ Check to see if set to ‘FALSE’ Check to see if it is present Check to see if set to ‘Periodic cell updating’ Check to see if it is absent or set to ‘FALSE’ Check to see if it is absent Check to see if it is absent

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A.

CELL UPDATE CONFIRM (Step 6 and 15)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI - SRNC Identity - S-RNTI	 Set to ‘0000 0000 0001’ Set to an arbitrary string different from ‘0000 0000 0000 0000 0001’

CELL UPDATE (Step 9 and 14)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Integrity check info AM_RLC error indicator (for C-plane) AM_RLC error indicator (for U-plane) Hyper frame number Cell Update Cause Protocol error indicator Measured results on RACH Protocol error information	 Check to see if set to ‘0000 0000 0000 0001’ Check to see if set to same bit string as in IE ”S-RNTI” in IE ”U-RNTI” of the CELL UPDATE CONFIRM message sent in step 6. Not checked Check to see if set to ‘FALSE’ Check to see if set to ‘FALSE’ Check to see if it is present Check to see if set to ‘Periodic cell updating’ Check to see if it is absent or set to ‘FALSE’ Check to see if it is absent Check to see if it is absent

CELL UPDATE CONFIRM (Step 10)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	
- Signature	0 and 1
- Available SF	Refer to the parameter set for TS 34.108
- Scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	
- Sub-Channel number	0 and 1
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

MASTER INFORMATION BLOCK (Step 12)

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 2 (Step 12)

Information Element	Value/remark
UE Timers and constants in connected mode T305	No update Infinity

MASTER INFORMATION BLOCK (Step 13)

Information Element	Value/remark
MIB Tag	1

SYSTEM INFORMATION BLOCK TYPE 2 (Step 13)

Information Element	Value/remark
UE Timers and constants in connected mode T305	5 minutes

8.3.1.3.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305 then transmits a CELL UPDATE message setting value "periodic cell update" into IE "Cell update cause".

After step 3 the UE shall not send any uplink message as a response to CELL UPDATE CONFIRM message sent in step 3.

After step 4 the UE shall send CELL UPDATE message, specifying the cell updating cause to be "periodic cell update".

After step 6 the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH.

After step 8 the UE shall send CELL UPDATE message, specifying the cell updating cause to be "periodic cell update".

After step 10 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using the PRACH radio resources allocated.

Between step 12 and step 13 the UE shall cease periodic cell updating activity and not transmit any CELL UPDATE messages.

After step 13 the UE shall transmit a CELL UPDATE message stating the cell update cause to be periodic updating, 5 minutes after the SS has modified the BCCH data.

8.3.1.4 Cell Update: periodical cell update in CELL_PCH

8.3.1.4.1 ~~———————~~Definition

8.3.1.4.2 Conformance requirement

This procedure is to update UTRAN with the information of the current cell when the UE detects that it is still in the service area, while residing in the CELL_PCH state, after the expiry of timer T305.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.4.3 Test purpose

To confirm that the UE, in CELL_PCH state, executes a cell update procedure after the expiry of timer T305. To confirm that the UE sends an appropriate response message after receiving the CELL UPDATE CONFIRM message.

8.3.1.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-15) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE starts from CELL_PCH state. When the UE detects the expiry of periodic cell updating timer T305 according to the system information, the UE moves to CELL_FACH state. It shall transmit a CELL UPDATE message on the uplink CCCH and set the value “periodic cell update” into IE ”-Cell update cause”. SS answers with a CELL UPDATE CONFIRM message, with IE ”DRX Indicator” set to “No DRX”. IEs related to RNTI, PRACH and S-CCPCH are omitted from this message. SS checks to confirm that the UE does not send a response. SS sends a RNTI REALLOCATION message to the UE, stating the new C-RNTI identity to be used and also setting IE ”DRX Indicator” to “DRX with cell updating”. The UE shall reply with RNTI REALLOCATION COMPLETE message and transit to CELL_PCH state. Next, SS stays idle until timer T305 is once again expired. The UE shall transmit CELL UPDATE message in order to initiate cell updating procedure. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the ~~les~~IEs ”new C-RNTI” and “new U-RNTI”. Then the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH and before entering CELL_PCH state. In the next sequence, SS assigns a new U-RNTI identity to the UE by transmitting RNTI REALLOCATION message again. Once again, the IE ”DRX Indicator” is set to “DRX with cell updating”. After reception of this message, the UE moves to CELL_PCH state and start to listen to the paging sub-channels derived based on the value of new U-RNTI given. Finally, SS waits until T305 has expired once more, the UE shall send CELL UPDATE message again on uplink CCCH. SS replies with CELL UPDATE CONFIRM which includes IEs “PRACH Info” and “Secondary CCPCH Info”. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using PRACH indicated in CELL UPDATE CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_PCH state. SS waits until T305 has expired.
2	→		CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE "Cell update cause" set to "periodic cell update".
3	←		CELL UPDATE CONFIRM	Does not include IEs "PRACH Info", "Secondary CCPCH Info", "new C-RNTI" or "new U-RNTI".
4				SS verifies that no response message is received.
5	←		RNTI REALLOCATION	Allocates a new C-RNTI identity to UE and set IE "DRX Indicator" to " DRX with Cell updating".
6	→		RNTI REALLOCATION COMPLETE	UE shall move to CELL_PCH state
7				SS remains idle for a period sufficient for T305 timer to expire.
8	→		CELL UPDATE	This message shall contain the new U-RNTI identity assigned in step 5.
9	←		CELL UPDATE CONFIRM	New C-RNTI and U-RNTI identities are assigned.
10	→		RNTI REALLOCATION COMPLETE	
11	←		RNTI REALLOCATION	SS assigns a new U-RNTI identity to the UE. At the same time, it sets IE "DRX Indicator" to "DRX with cell updating".
12	→		RNTI REALLOCATION COMPLETE	UE shall move to CELL_PCH state after sending this message.
13				SS waits for T305 to expire.
14			CELL UPDATE	
15			CELL UPDATE CONFIRM	Allocates new common physical resources by specifying ~~Ies~~IEs "PRACH Info" and "Secondary CCPCH Info".
16			PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

CELL UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A.

RNTI REALLOCATION (Step 5 and step 11)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	Set to '0000 0000 0001'
- S-RNTI	Set to '0000 0000 0000 0000 1111'
New C-RNTI	Set to '0000 0000 0000 1111'
DRX Indicator	DRX with cell updating

CELL UPDATE (Step 8)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 9)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	Set to '0000 0000 0001'
- S-RNTI	Set to '0000 0000 0000 0000 1010'
New C-RNTI	Set to '0000 0000 0000 0101'

CELL UPDATE (Step 14)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 15)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	
- Signature	0 and 1
- Available SF	Refer to the parameter set for TS 34.108
- Scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	
- Sub-Channel number	0 and 1
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

8.3.1.4.5 Test requirement

After step 2 the UE shall detect the expiry of timer T305, it shall then move to CELL_FACH state and transmits a CELL UPDATE message with the IE "Cell update cause" set to "periodic cell update".

After step 5 the UE shall reply with RNTI REALLOCATION COMPLETE message. It shall subsequently move to CELL_PCH state.

After step 7 the UE shall initiate a cell updating procedure by the transmission of a CELL UPDATE message. In this message, it shall indicate the new U-RNTI value assigned in step 5 and also set IE "Cell Updating Cause" to "Periodic Cell Updating".

After step 11 the UE shall reply with RNTI REALLOCATION COMPLETE message. It shall subsequently move to CELL_PCH state.

After step 13 the UE shall send a CELL UPDATE message. After step 15 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the new PRACH channel assigned by the received CELL UPDATE CONFIRM message in step 15.

8.3.1.5 Cell Update: UL data transmission in URA_PCH

8.3.1.5.1 Definition

8.3.1.5.2 Conformance requirement

This procedure is to update UTRAN with the current cell information if the UE wants to transmit UL data while in URA_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.5.3 Test purpose

To confirm that the UE executes a cell update procedure when the UE transmits UL data if the UE is in URA_PCH state. To confirm that the UE sends the correct response to CELL UPDATE CONFIRM message, after it has taken into consideration the current TFS and/or TFCS settings.

8.3.1.5.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-16) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE starts from URA_PCH state, after the operator initiates an outgoing packet data transmission. The UE then moves to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH, with the IE "Cell update cause" set to value "UL data transmission". After receiving such a message, SS transmits CELL UPDATE CONFIRM message without specifying any of the following IEs: "new C-RNTI", "new U-RNTI", "PRACH Info" and "Secondary CCPCH Info". The UE shall stay in CELL_FACH state and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH. SS waits until uplink data transmission is completed and sends a RNTI REALLOCATION message. The UE shall reply with RNTI REALLOCATION COMPLETE message. Since the IE "DRX Indicator" is set to "DRX with URA updating" in the downlink message, the UE shall move to URA_PCH state. Next SS modifies the contents of SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. See specific message contents for further details. SS then prompts the test operator to transmit packet data. The UE shall send CELL UPDATE message and specifies the cause to be "UL data transmission". SS replies with the default CELL UPDATE CONFIRM message defined in TS 34.108. After receiving this message, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and remains in CELL_FACH state. SS again waits for the transmission of user packet data to complete and then sends RNTI REALLOCATION message on the downlink DCCH. The IE "DRX Indicator" is set to "DRX with URA updating". The UE shall move to URA_PCH state and acknowledges that it starts using the new RNTI identity provided. Finally, SS prompts the test operator to transmit packet data. The UE shall send CELL UPDATE message once more. After the SS receives this message, it replies with a CELL UPDATE CONFIRM message including the ~~les~~IEs "PRACH info~~",""~~ and "Secondary CCPCH info". The IE "DRX Indicator" is set to "No DRX" in this message. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink PRACH specified in the CELL UPDATE CONFIRM message. Then the UE shall enter CELL_FACH state and proceed to transmit packet data.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to URA_PCH state. SS prompts the test operator to begin a packet data transmission.
2	→		CELL UPDATE	The UE shall move to CELL FACH state with the message set to "UL data transmission" in IE "Cell update cause".
3	←		CELL UPDATE CONFIRM	Use default message content.
4	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
5				SS waits until transmission of uplink data has been completed.
6	←		RNTI REALLOCATION	IE "DRX Indicator" set to "DRX with URA update"
7	→		RNTI REALLOCATION COMPLETE	UE moves to URA_PCH state.
8				SS modifies MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. SS prompts test operator to initiate a packet data transmission.
9	→		CELL UPDATE	Should be same as in step 2
10	←		CELL UPDATE CONFIRM	Use default message content.
11	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
12				SS waits until transmission of uplink data has been completed.
13	←		RNTI REALLOCATION	IE "DRX Indicator" set to "DRX with URA update"
14	→		RNTI REALLOCATION COMPLETE	UE moves to URA_PCH state.
15				SS prompts test operator to initiate a packet data transmission.
16	→		CELL UPDATE	Should be same as in step 2
17	←		CELL UPDATE CONFIRM	Including the IEs" PRACH info"," Secondary CCPCH"
18	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	SS verifies that this message is received from PRACH physical channel using the configurations set in IE "PRACH Info" in CELL UPDATE CONFIRM message.

Specific Message Contents

CELL UPDATE (Step 2, 9 and 16)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'UL Data Transmission'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3 and 10)

Use the same message sub-type found in Annex A.

CELL UPDATE CONFIRM (Step 17)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	
- Signature	0
- Available SF	Refer to the parameter set for TS 34.108
- Scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	
- Sub-Channel number	0
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

RNTI REALLOCATION (Step 6)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'0000 0000 0000 1111'
DRX Indicator	DRX with URA updating

RNTI REALLOCATION (Step 13)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'0000 0000 1111 1111'
DRX Indicator	DRX with URA updating

PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Step 4 and 18)

Only the message type IE in this message will be checked.

TRANSPORT CHANNEL RECONFIGURATION COMPLETE (Step 12)

Only the message type IE in this message will be checked.

MASTER INFORMATION BLOCK (Step 8)

Use the same message sub-type found in Clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 5 and TYPE 6 (Step 8)

Use the same message sub-type found in Clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
PRACH system information	
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport Format Information	
- Number of Transport blocks	1
- RLC Size	296 bits
- Semi-static Transport Format	
- Transmission time interval	80 msec
- Type of channel coding	No coding
- Coding Rate	No Present
- Rate matching attribute	1
- CRC Size	16 bits

8.3.1.5.5 Test requirement

After step 1 the UE shall move to CELL_FACH state to initiate a cell update procedure and transmits a CELL UPDATE message which is set to “UL data transmission” in IE ”-Cell update cause”.

After step 3 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 8 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE ”Cell update cause” shall be set to “UL data transmission”.

After step 10 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 15 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE ”Cell update cause” shall be set to “UL data transmission”.

After step 17 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using the PRACH resources assigned in CELL UPDATE CONFIRM, which is sent in step 17.

8.3.1.6 Cell Update: UL data transmission in CELL_PCH

8.3.1.6.1 ——————Definition

8.3.1.6.2 Conformance requirement

This procedure is to update UTRAN with the current cell of the UE if the UE wants to transmit UL data when the UE is in CELL_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.6.3 Test purpose

To confirm that the UE executes a cell update procedure when the UE transmits UL data if the UE is in CELL_PCH state. To confirm that the UE sends the correct response to CELL UPDATE CONFIRM message, after it has taken into consideration the current TFS and/or TFCS settings.

8.3.1.6.4 Method of test

Initial Condition

System Simulator: 1cell

UE: CELL_PCH (state 6-15) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_PCH state. SS asks the test operator to send some packet data. The UE moves to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH, which shall indicate “UL data transmission” in IE_”-Cell update cause”. After receiving such a message, SS transmits default CELL UPDATE CONFIRM message. The UE shall stay in CELL_FACH state and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH. SS waits until uplink data transmission is completed and sends a RNTI REALLOCATION message. The UE shall reply with RNTI REALLOCATION COMPLETE message. Since the IE_”DRX Indicator” is set to “DRX with cell updating” in the downlink message, the UE shall move to CELL_PCH state. Next SS modifies the contents of SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. See specific message contents for further details. SS then prompts the test operator to transmit packet data. The UE shall send CELL UPDATE message and specifies the cause to be “UL data transmission”. SS replies with a CELL UPDATE CONFIRM message which assigns a new C-RNTI to the UE. After receiving this message, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and remains in CELL_FACH state. SS again waits for the transmission of user packet data to complete and then sends RNTI REALLOCATION message on the downlink DCCH. The IE_”DRX Indicator” is set to “DRX with cell updating”. The UE shall move to CELL_PCH state and acknowledges that it starts using the new RNTI identity provided. Finally, SS prompts the test operator to transmit packet data. The UE shall send CELL UPDATE message once more. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the IEs” PRACH info” and set IE_”DRX Indicator” to “No DRX”. Then the UE shall enter to the CELL_FACH state after sending PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_PCH state. SS prompts the test operator to initiate a packet data call.
2	→		CELL UPDATE	The UE moves to CELL FACH state and transmit this message which is set to "UL data transmission" in IE "Cell update cause".
3	←		CELL UPDATE CONFIRM	Use default message content.
4	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
5				SS waits until transmission of uplink data has been completed.
6	←		RNTI REALLOCATION	IE "DRX Indicator" set to "DRX with cell update"
7	→		RNTI REALLOCATION COMPLETE	UE moves to CELL_PCH state.
8				SS modifies MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. SS prompts test operator to initiate a packet data transmission.
9	→		CELL UPDATE	Should be same as in step 2
10	←		CELL UPDATE CONFIRM	Use default message content.
11	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
12				SS waits until transmission of uplink data has been completed.
13	←		RNTI REALLOCATION	IE "DRX Indicator" set to "DRX with cell update"
14	→		RNTI REALLOCATION COMPLETE	UE moves to CELL_PCH state.
15				SS prompts test operator to initiate a packet data transmission.
16	→		CELL UPDATE	Should be same as in step 2
17	←		CELL UPDATE CONFIRM	Including the IE "PRACH info" and set IE "DRX Indicator" to "No DRX".
18	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	SS verifies that this message is received from PRACH physical channel using the configurations set in IE "PRACH Info" in CELL UPDATE CONFIRM message.

Specific Message Contents

CELL UPDATE (Step 2, 9 and 16)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'UL Data Transmission'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3 and 10)

Use the same message sub-type found in Annex A.

CELL UPDATE CONFIRM (Step 17)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	
- Signature	0
- Available SF	Refer to the parameter set for TS 34.108
- Scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	
- Sub-Channel number	0
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

RNTI REALLOCATION (Step 6)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'0000 0000 0000 1111'
DRX Indicator	DRX with cell updating

RNTI REALLOCATION (Step 13)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'0000 0000 1111 1111'
DRX Indicator	DRX with cell updating

PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Step 4 and 18)

Only the message type IE in this message will be checked.

TRANSPORT CHANNEL RECONFIGURATION COMPLETE (Step 12)

Only the message type IE in this message will be checked.

MASTER INFORMATION BLOCK (Step 8)

Use the same message sub-type found in Clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 5 and TYPE 6 (Step 8)

Use the same message sub-type found in Clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
PRACH system information - RACH TFS - CHOICE Transport channel type - Dynamic Transport Format Information - Number of Transport blocks - RLC Size - Semi-static Transport Format - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC Size	 Common transport channels 1 296 bits 80 msec No coding No Present 1 16 bits

8.3.1.6.5 Test requirement

After step 1 the UE shall move to CELL_FACH state, initiate a cell update procedure for the UL data transmission, and transmit a CELL UPDATE message which is set to “UL data transmission” in IE ”-Cell update cause”.

After step 3 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 8 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE ”Cell update cause” shall be set to “UL data transmission”.

After step 10 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 15 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE ”Cell update cause” shall be set to “UL data transmission”.

After step 17 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using the PRACH resources assigned in CELL UPDATE CONFIRM, which is sent in step 17.

8.3.1.7 Cell Update: paging response in URA_PCH

8.3.1.7.1 ——————Definition

8.3.1.7.2 Conformance requirement

This procedure is to update UTRAN with the current cell of the UE after it receives a PAGING TYPE 1 message addressed to itself while it is in URA_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.7.3 Test purpose

To confirm that the UE executes a cell update procedure when it receives a PAGING ~~TYPE1~~TYPE 1 message while operating in URA_PCH state. To confirm that the UE responds with an appropriate uplink message after receiving a CELL UPDATE CONFIRM message during cell updating procedure triggered by paging.

8.3.1.7.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-16) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to URA_PCH state. SS transmits a PAGING TYPE 1 message to page for the UE, setting IE "paging originator" to "UTRAN Originator". The UE shall move to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH. This message shall set IE "Cell update cause" to "Paging Response". After the SS receives this message, it transmits the default CELL UPDATE CONFIRM message. The UE shall stay in CELL_FACH state and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH. SS then sends a RNTI REALLOCATION message. The UE shall reply with RNTI REALLOCATION COMPLETE message. In this message, the IE "DRX Indicator" is set to "DRX with URA updating". As a result, the UE shall move to URA_PCH state. Next SS modifies the contents of SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. See specific message contents for further details. SS pages the UE again using the U-RNTI identity. The UE shall send CELL UPDATE message and specify the cause to be "Paging Response". SS replies with the default CELL UPDATE CONFIRM message again. After receiving this message, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and remains in CELL_FACH state. SS sends another RNTI REALLOCATION message on the downlink DCCH, with the IE"DRX Indicator" set to "DRX with URA updating". The UE shall move to URA_PCH state and acknowledges that it starts using the new C-RNTI identity provided by transmitting RNTI REALLOCATION COMPLETE message. SS pages the UE again using PAGING TYPE 1 message. The UE shall send CELL UPDATE message once more. SS transmits a CELL UPDATE CONFIRM message which includes the IE~~e~~s "new C-RNTI", "new U-RNTI" on the downlink DCCH. The UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message. In the next sequence, SS transmits RNTI REALLOCATION message and assigns a new C-RNTI identity to the UE. The UE shall reply with RNTI REALLOCATION COMPLETE message and move to URA_PCH state. SS then pages the UE once more using PAGING TYPE 1 message. The UE shall initial the cell update procedure by dispatching a CELL UPDATE message on the uplink CCCH. SS replies with a CELL UPDATE CONFIRM message which includes information of the PRACH channel to be used. The UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE, sent on the DCCH supported by the PRACH indicated in CELL UPDATE CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is first brought to URA_PCH state.
2		←	PAGING TYPE 1	SS transmits a PAGING ~~TYPE1~~TYPE 1 message to the UE which includes the UE's assigned U-RNTI with ~~the IE~~the IE "~~-~~paging originator" set to "UTRAN originator".
3		→	CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE "~~-~~Cell update cause" set to "paging response".
4		←	CELL UPDATE CONFIRM	Use the default message from TS 34.108 Clause 8.
5		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE shall move to CELL_FACH state and transmits this message.
~~6~~				~~SS modifies MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 message. The TFS of the PRACH is changed.~~
6~~7~~		←	RNTI REALLOCATION	Allocates a new C~~U~~-RNTI and set IE "DRX Indicator" to "DRX with URA updating".
7~~8~~		→	RNTI REALLOCATION COMPLETE	UE moves to URA_PCH state.
8				SS modifies MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. The TFS of the PRACH is changed.
9		←	PAGING TYPE 1	SS pages the UE again
10		→	CELL UPDATE	IE "~~-~~Cell update cause" shall be set to "paging response".
11		←	CELL UPDATE CONFIRM	Use the default message from TS 34.108 Clause 8.
12		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE shall move to CELL_FACH state and transmits this message.
13		←	RNTI REALLOCATION	Allocates a new C~~U~~-RNTI and set IE "DRX Indicator" to "DRX with URA updating".
14		→	RNTI REALLOCATION COMPLETE	UE moves to URA_PCH state.
15		←	PAGING TYPE 1	SS pages the UE again
16		→	CELL UPDATE	IE "~~-~~Cell update cause" shall be set to "paging response".
17		←	CELL UPDATE CONFIRM	IE "new C-RNTI" is included in this message
18		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
19		←	RNTI REALLOCATION	Allocates a new C-RNTI and set IE "DRX Indicator" to "DRX
20		→	RNTI REALLOCATION COMPLETE	UE moves to URA_PCH state.
21		←	PAGING TYPE 1	UE paged using U-RNTI identity.
22		→	CELL UPDATE	IE "Cell Update Cause" shall be set to "Paging Response"
23		←	CELL UPDATE CONFIRM	IE "PRACH Info" is included.

24	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	This message shall be sent on the PRACH resource

Specific Message Contents

PAGING TYPE 1 (Step 2, 9, 15 and 21)

Information Element	Value/remark
CHOICE Paging Originator	UTRAN Originator
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

CELL UPDATE (Step 3, 10, 16 and 22)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 4 and 11)

Use the same message sub-type found in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 5, 18 and 24)

Only the message type for this message is checked.

MASTER INFORMATION BLOCK (Step 8~~6~~)

Use the same message sub-type found in Clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 5 and TYPE 6 (Step 8~~6~~)

Use the same message sub-type found in Clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
PRACH system information	
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport Format Information	
- Number of Transport blocks	1
- RLC Size	296 bits
- Semi-static Transport Format	
- Transmission time interval	80 msec
- Type of channel coding	No coding
- Coding Rate	No Present
- Rate matching attribute	1
- CRC Size	16 bits

RNTI REALLOCATION (Step 6~~7~~, 13 and 19)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	Selects any arbitrary unused 16-bits string
DRX Indicator	DRX with URA updating

TRANSPORT CHANNEL RECONFIGURATION (Step 12)

Only the message type for this message is checked.

CELL UPDATE CONFIRM (Step 17)

Information Element	Value/remark
New C-RNTI	Selects any arbitrary unused 16-bits string

CELL UPDATE CONFIRM (Step 23)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	
- Signature	1
- Available SF	Refer to the parameter set for TS 34.108
- Scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	
- Sub-Channel number	1
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

8.3.1.7.5 Test requirement

After step 2 the UE shall answer to the paging message then moves to CELL_FACH state and transmit a CELL UPDATE message. This message shall ~~set the~~set the value "paging response" into IE "Cell update cause".

After step 4 the UE shall transmit PHYSICAL CHANNEL RECONFIGURTION COMPLETE message on the uplink DCCH and enters CELL_FACH state.

After step 9 the UE shall respond the paging by replying with a CELL UPDATE message. IE "Cell Update Cause" shall be set to "Paging Response" in this message.

After step 11 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 15 the UE shall answer the PAGING TYPE 1 message by sending a CELL UPDATE message. The IE "Cell Update Cause" shall have a value equals to "Paging Response".

After step 17 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 21 the UE shall respond to the PAGING TYPE 1 message addressed to itself and initiate a cell update procedure. It shall transmit CELL UPDATE message with the IE "Cell Update Cause" set to "Paging Response" in this message.

After step 23 the UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using the PRACH channel indicated in CELL UPDATE CONFIRM message sent in step 23.

8.3.1.8 Cell Update: paging response in CELL_PCH

8.3.1.8.1 ~~Definition~~

8.3.1.8.2 Conformance requirement

This procedure is to update UTRAN with the current cell when the UE receives a PAGING TYPE 1 message addressed to it while in CELL_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.8.3 Test purpose

To confirm that the UE- executes a cell update procedure when the UE receives a PAGING ~~TYPE1~~TYPE 1 message while in CELL_PCH state. To confirm that the UE sends an appropriate uplink message after receiving a CELL UPDATE CONFIRM message during cell updating procedure due to paging.

8.3.1.8.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-15) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_PCH state. The SS transmits a PAGING TYPE 1 message to the UE on the downlink PCCH which includes the connected mode identity of the UE and set value "UTRAN originator" into IE " paging originator". The UE shall respond to this message. Then the UE shall move to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH which and set the value "Paging Response" into IE "-Cell update cause". After the SS receives this message, it transmits the default CELL UPDATE CONFIRM message. The UE shall stay in CELL_FACH state and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH. ~~SS then sends a RNTI REALLOCATION message. The UE shall reply with RNTI REALLOCATION COMPLETE message. In this message, the IE"DRX Indicator" is set to "DRX with cell updating". As a result, the UE shall move to CELL_PCH state. SS pages the UE again using the U-RNTI identity. The UE shall send CELL UPDATE message and specify the cause to be "Paging Response". SS replies with a CELL UPDATE CONFIRM message which comprises a new C-RNTI identity for the UE. After receiving this message, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and remains in CELL_FACH state.~~ Next SS modifies the contents of SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. See specific message contents for further details. SS then sends ~~another~~ a RNTI REALLOCATION message on the downlink DCCH, with the IE "DRX Indicator" set to "DRX with cell updating". The UE shall move to CELL_PCH state and acknowledges that it starts using the new C-RNTI identity provided by transmitting RNTI REALLOCATION COMPLETE message. SS pages the UE again using PAGING TYPE 1 message. The UE shall send CELL UPDATE message once more. SS replies with a CELL UPDATE CONFIRM message which includes the IE "new C-RNTI" to the UE on the downlink DCCH. Then the UE shall transmit an TRANSPORT CHANNEL RECONFIGURTION COMPLETE message on the uplink DCCH and enters the CELL_FACH state. In the final sequence, SS transmits RNTI REALLOCATION message and assigns a new C-RNTI identity to the UE. The UE shall reply with RNTI REALLOCATION COMPLETE message and move to CELL_PCH state. SS then pages the UE once more using PAGING TYPE 1 message. The UE shall initial the cell update

procedure by dispatching a CELL UPDATE message on the uplink CCCH. SS replies with a CELL UPDATE CONFIRM message which includes the IE "PRACH Info". The UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE, sent on the DCCH supported by the PRACH indicated in CELL UPDATE CONFIRM message. Next, SS sends RNTI REALLOCATION message to UE with the "DRX Indicator" IE set to "DRX with cell updating". The UE shall respond by transmitting RNTI REALLOCATION COMPLETE message on the uplink DCCH and then move to CELL_PCH state. SS pages the UE again using connected mode identity at the paging occasions assigned to the UE. The UE shall answer to the page and sent CELL UPDATE message on the uplink CCCH. SS responds to the reception of this message by transmitting a CELL UPDATE CONFIRM message on the downlink DCCH. In this message, a set of new PRACH resources is assigned. The UE shall acknowledge the receipt of this message and send PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH supported by the new PRACH channel.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_PCH state.
2		←	PAGING TYPE 1	The SS transmits a PAGING ~~TYPE1~~TYPE 1 message addressing the UE with its connected mode identity and ~~set IE~~set IE "-paging originator" to "UTRAN originator".
3		→	CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE "-Cell update cause" set to "paging ~~respose~~response".
4		←	CELL UPDATE CONFIRM	Use the default message from TS 34.108 Clause 8.
5		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE shall move to CELL_FACH state and transmits this message.
6				SS modifies the contents of MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages.
7		←	RNTI REALLOCATION	Allocates a new C-RNTI and set IE "DRX Indicator" to "DRX with cell updating"
8		→	RNTI REALLOCATION COMPLETE	UE moves to CELL_PCH state
9		←	PAGING TYPE 1	SS pages the UE again
10		→	CELL UPDATE	IE "-Cell update cause" shall be set to "paging response"
11		←	CELL UPDATE CONFIRM	Contains the IE "new C-RNTI"
12		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE shall move to CELL_FACH state and transmit this message.
13		←	RNTI REALLOCATION	Allocates a new C-RNTI and set IE "DRX Indicator" to "DRX with cell updating".
14		→	RNTI REALLOCATION COMPLETE	UE moves to CELL_PCH state.
15		←	PAGING TYPE 1	SS pages the UE again
16		→	CELL UPDATE	IE "-Cell update cause" shall be set to "paging response".
17		←	CELL UPDATE CONFIRM	Including IE "PRACH Info" in this message.
18		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	To be sent on the new PRACH channel.
19		←	RNTI REALLOCATION	Allocates a new C-RNTI and set IE "DRX Indicator" to "DRX

20	→	RNTI REALLOCATION COMPLETE	UE moves to CELL_PCH state.
21	←	PAGING TYPE 1	UE paged using U-RNTI identity.
22	→	CELL UPDATE	IE "Cell Update Cause" shall be set to "Paging Response"
23	←	CELL UPDATE CONFIRM	IE "PRACH Info" is included.
24	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	This message shall be sent on the PRACH resource

Specific Message Contents

PAGING TYPE 1

Information Element	Value/remark
CHOICE Paging Originator - U-RNTI - SRNC Identity - S-RNTI	UTRAN Originator '0000 0000 0001' '0000 0000 0000 0000 0001'

CELL UPDATE (Step 3, 10 and 16)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Integrity check info AM_RLC error indicator (for C-plane) AM_RLC error indicator (for U-plane) Hyper frame number Cell Update Cause Protocol error indicator Measured results on RACH Protocol error information	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Not checked Check to see if set to 'FALSE' Check to see if set to 'FALSE' Check to see if it is present Check to see if set to 'Paging Response' Check to see if it is absent or set to 'FALSE' Check to see if it is absent Check to see if it is absent

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 5 and 18)

Only the message type for this message is checked.

MASTER INFORMATION BLOCK (Step ~~8~~6)

Use the same message sub-type found in Clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 5 and TYPE 6 (Step 6)

Use the same message sub-type found in Clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
PRACH system information - RACH TFS - CHOICE Transport channel type - Dynamic Transport Format Information - Number of Transport blocks - RLC Size - Semi-static Transport Format - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC Size	 Common transport channels 1 296 bits 80 msec No coding No Present 1 16 bits

RNTI REALLOCATION (Step 7 ,13 and 19)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	Selects any arbitrary unused 16-bits string
DRX Indicator	DRX with cell updating

TRANSPORT CHANNEL RECONFIGURATION (Step 12)

Only the message type for this message is checked.

CELL UPDATE CONFIRM (Step 17)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH) - Available Signature - Signature - Available SF - Scrambling code number - Puncturing Limit - Available Sub-Channel number - Sub-Channel number Downlink DPCH info for one radio link - Primary CPICH Info - Primary Scrambling Code - PDSCH with SHO DCH Info - PDSCH code mapping - Secondary CCPCH Info - Selection Indicator - Primary CPICH usage for channel estimation - Secondary CPICH Info - Secondary scrambling code - Channelization code - Secondary scrambling code - STTD indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing Offset	 2 Refer to the parameter set for TS 34.108 0 Refer to the parameter set for TS 34.108 2 Set to the scrambling code for cell 1's P-CPICH. Not Present. Not Present. Not Present TRUE Not Present. Use default (Scrambling code of P-CPICH) 1 Not Present. Use default (Scrambling code of P-CPICH) FALSE 256 255 TRUE TRUE Flexible 0 chips

CELL UPDATE CONFIRM (Step 23)

Use the same message sub-type found in ~~Clause 9 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	
- Signature	1
- Available SF	Refer to the parameter set for TS 34.108
- Scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	
- Sub-Channel number	1
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

8.3.1.8.5 Test requirement

After step 2 the UE shall answer to the paging message, moves to CELL_FACH state, and then transmits a CELL UPDATE message setting "paging response" into IE "Cell update cause".

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH and then enter CELL_FACH state.

After step 9 the UE shall respond to the paging again by sending CELL UPDATE message, with the IE "Cell update cause" set to "Paging response".

After step 11 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to end the cell updating procedure.

After step 15 the UE shall answers the paging message by sending a CELL UPDATE message, with the IE "Cell update cause" set to "Paging response".

After step 17 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH carried by the PRACH indicated in the CELL UPDATE CONFIRM message sent in step 17.

After step 21 the UE shall respond to the paging and initiate a cell update procedure. It shall transmit CELL UPDATE message with the IE "Cell Update Cause" set to "Paging Response" in this message.

After step 23 the UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using the PRACH channel indicated in CELL UPDATE CONFIRM message sent in step 23.

8.3.1.9 Cell Update: re-entering of service area after T305 expiry and being out of service area

8.3.1.9.1 Definition

8.3.1.9.2 Conformance requirement

When a UE detects that it's out of service area after experiencing a T305 timer expiry, it shall try to search for a suitable cell to camp on. At the same time, it shall start timer T307. If the UE subsequently re-enters the service area of a cell before T307 expires, it shall perform a cell update procedure.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.9.3 Test purpose

To confirm that the UE performs a cell search after experiencing an “out of service area” condition following the expiry of timer T305. To confirm that the UE initiates cell updating procedure if it manages to re-enter the service area.

8.3.1.9.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active with the CPICH Ec/No set to –80dB and the $Q_{qualmin}$ value is at –90dBm. Cell 2 is inactive.

UE: CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_FACH in cell 1~~

Test Procedure

The UE is in the CELL_FACH state. SS decreases the transmission power of cell 1 until the cell selection parameter S<0 (decrease transmission power of cell 1’s CPICH by 15 dBm). Following the expiry of periodic cell updating timer T305 according to the system information, the UE shall detect that it is out of service area. Within the time interval equivalent to T307 timer value, the SS restores the transmission power of cell 1. The UE shall find that it is back in service area, and transmits a CELL UPDATE message to the SS on the uplink CCCH. In this message, the IE_”Cell update cause” shall be set to “periodic cell update”. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message with the IE_”DRX Indicator” set “No DRX” on the downlink DCCH. The UE shall enter CELL_FACH state. Next, cell 1 is switched off. SS waits until T305 timer has expired and then turns on cell 2. The transmission level for cell 2 is such that the CPICH Ec/No value is estimated at –70dB. $Q_{qualmin}$ of cell 2 is identical to the value used previously by cell 1. The UE shall discover that cell 1 is no longer suitable for camping and initiate a cell search. It shall detect the presence of cell 2 and reselects to this cell. Following this, it shall transmit CELL UPDATE message with the cause set to “Cell Reselection”. SS ends this test by sending a CELL UPDATE CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state of cell 1.
2				SS decreases the transmission power of cell 1 so that its S value falls below 0.
3				The UE shall detect a “out of service” condition upon expiry of timer T305 and it shall search for other cells to camp on.(T307 timer starts)
4				SS restores cell 1’s original power level before T307 timer expires.
5	→		CELL UPDATE	The value “periodic cell update” should be found in IE ”-Cell update cause” in this message
6	←		CELL UPDATE CONFIRM	”DRX Indicator” is set to “No DRX”
7				SS switches off cell 1 and wait until T305 has expired.
8				SS turns on cell 2 and set the transmission strength of such
9			CELL UPDATE	UE shall detect the presence of cell 2 and re-select to it. It shall transmit this message with cause set to “Cell
10			CELL UPDATE CONFIRM	

Specific Message Contents

CELL UPDATE (Step 5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to ‘0000 0000 0001’
- S-RNTI	Check to see if set to ‘0000 0000 0000 0000 1111’
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to ‘FALSE’
AM_RLC error indicator (for U-plane)	Check to see if set to ‘FALSE’
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to ‘Periodic cell updating’
Protocol error indicator	Check to see if it is absent or set to ‘FALSE’
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 6 and 10)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A.

CELL UPDATE (Step 9)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Cell Reselection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

8.3.1.9.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message in which the IE "Cell update cause" is set to the value "periodic cell update".

After step 8 the UE shall reselect to cell 2 and then transmit a CELL UPDATE message, with the IE "Cell Update Cause" set to "Cell Reselection".

8.3.1.10 Cell Update: expiry of T307 after T305 expiry and being out of service area

8.3.1.10.1 Definition

8.3.1.10.2 Conformance requirement

This procedure is required to cater for the case of a failure to update UTRAN with the current cell, after the expiry of T307. In this case, the UE shall return to idle mode and perform cell reselection if possible.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.10.3 Test purpose

To confirm that the UE moves to idle mode after the expiry of T307, indicating that it is out of service area when attempting to perform a periodic cell updating procedure.

8.3.1.10.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-15) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in CELL_PCH state at the start of the test. Before the expiry of periodic cell updating timer T305, SS starts to decrease the downlink transmission power such that the UE discovers that the cell is no longer suitable for camping and this results in a "out of service area" condition. The SS continues to listen to the uplink channel to detect possible attempts to perform a cell updating procedure. The UE shall not send CELL UPDATE message on the uplink DCCH, instead it triggers timer T307. After the expiry of timer T307 the UE shall enter idle state. This is confirmed by the SS, when it sends a PAGING TYPE 1 message to the UE using its U-RNTI identity, and the UE does not respond to the page. SS then attempts to page for the UE again, this time using PAGING TYPE 2 message sent on downlink DCCH. Likewise, the UE shall not respond to this page.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_PCH state.
2				SS starts to decrease the transmission power until the cell is no longer suitable for camping. The UE shall detect that it is out of service area and refrains from transmitting CELL UPDATE message due to periodic cell updating.
3				The UE detects the expiry of timer T305 and it searches for other cells to camp on. After the expiry of timer T307, the UE shall enter idle mode.
4	←		PAGING TYPE 1	SS pages the UE at its assigned paging occasion using the allocated U-RNTI value. The UE shall not respond to this page as it has already entered the idle mode.
5	←		PAGING TYPE 2	SS pages the UE on the downlink DCCH. The UE shall not respond to this page.

Specific Message Contents

Paging Type 1 (Step 4)

Information Element	Value/remark
Page record list - Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI BCCH Modification info	 UTRAN Originator Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 1111' Not Present.

Paging Type 2 (Step 5)

Information Element	Value/remark
Integrity check info Paging cause CN domain identity Paging Record Type Identifier	Not Present Set to a cause corresponding to one radio access bearer services supported by the UE. CS-Domain IMSI

8.3.1.10.5 Test requirement

After step 4 the UE shall remain in the idle mode and not respond to the paging message sent on PCCH.

After step 5 the UE shall remain in the idle mode and not respond to the paging message addressed to it on the DCCH.

8.3.1.11 Cell Update: Success after T302 time-out

8.3.1.11.1 Definition

8.3.1.11.2 Conformance requirement

The UE transmits a CELL UPDATE message to the UTRAN when it needs to update the UTRAN with the current cell of the UE. When the UE does not receive a CELL UPDATE CONFIRM message upon expiry of timer T302, the UE transmits a CELL UPDATE message repeatedly until its internal counter V302 counter is greater than N302.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.11.3 Test purpose

To confirm that the UE repeats the transmission of CELL UPDATE message upon the expiry of timer T302, after failing to receive any response from the SS during T302 timer period.

8.3.1.11.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_FACH~~

Test Procedure

At the start of the test, the UE is brought to CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305 according to the system information, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH. The IE_"-Cell update cause" in this message shall be set to "periodic cell update". SS ignores this message, and the UE shall then re-transmit a CELL UPDATE message after the expiry of timer T302. When the SS has received (N302+1) such messages, it transmits a CELL UPDATE CONFIRM message with new values for "C-RNTI" to the UE. Finally, the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE starts from CELL_FACH state. SS initializes its internal counter K to 0 and wait until the expiry of T302 timer.
2	→		CELL UPDATE	The value "periodic cell update" shall be set in IE_" Cell update cause" after the expiry of timer T305.
3				If K is equal to N302 then proceeds to step 5.
4				SS increments counter K, transmits no response to the UE and waits for an additional period equals to the value of timer T302. The next step is step 2.
5	←		CELL UPDATE CONFIRM	The message includes IEs" new C-RNTI". The IE_"DRX Indicator" is set to "No DRX".
6	→		RNTI REALLOCATION COMPLETE	

Specific Message Contents

CELL UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exception:

Information Element	Value/remark
New C-RNTI	Set to an arbitrary string different from '0000 0000 0000 0001'

8.3.1.11.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305 then transmit a CELL UPDATE message on the uplink CCCH, setting "periodic cell update" into IE "Cell update cause".

After step 2 the UE shall re-transmits a CELL UPDATE message after the expiry of timer T302. A total of (N302+1) transmissions shall be detected in SS.

After step 5 the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH and stays at CELL_FACH state.

8.3.1.12 Cell Update: Failure (After Maximum Re-transmissions)

8.3.1.12.1 ~~————————~~Definition

8.3.1.12.2 Conformance requirement

The UE transmits a CELL UPDATE message to the UTRAN when it needs to update UTRAN with information on the current cell of the UE. If the UE fails to receive a CELL UPDATE CONFIRM message, it re-transmits a CELL UPDATE message repeatedly upon the expiry of timer T302 until the value of V302 counter is greater than N302. If V302 is greater than N302, the UE stop the re-transmission and enters idle state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.12.3 Test purpose

To confirm that the UE repeats the cell update procedure at the expiry of timer T302 and moves to idle state when its internal counter V302 is greater than N302.

8.3.1.12.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_FACH~~

Test Procedure

The UE is initially in CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH to perform a periodic cell updating procedure. The SS ignores this message, and the UE shall attempt to re-transmit a CELL UPDATE message up to a maximum of (N302+1) times after the expiry of timer T302. After (N302+1) attempts, the UE shall return to idle state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state. SS sets its internal counter K=1 and waits for a period equals to timer value T302. If CELL UPDATE message is received upon timer expiry, proceeds to step 2. Else goes to step 4~~5~~.
2		→	CELL UPDATE	The value "periodic cell update" should be set in IE " Cell update cause" and this message should be sent for each expiry of timer T302.
3				SS transmits no response to the UE and increments counter K.
4				SS waits for an additional period equals to T302 timer. If CELL UPDATE message is received, proceed to step 2. Otherwise, terminates the test. If K is not equal to N302, the test should be considered as a failure.

Specific Message Contents

CELL UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

8.3.1.12.5 Test requirement

After step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH and set value "periodic cell update" into IE "-Cell update cause".

After step 4 the counter K in SS shall be equal to N302.

8.3.1.13 Cell Update: Reception of Invalid CELL UPDATE CONFIRM Message

8.3.1.13.1 ————————Definition

8.3.1.13.2 Conformance Requirement

If the UE encounters an invalid CELL UPDATE CONFIRM message while executing a cell update procedure, it shall check the current value of its internal counter V302. If V302 is not greater than N302, the UE shall set contexts pertaining to protocol error, re-transmits CELL UPDATE message on uplink CCCH, restart T302 timer and increments V302. It shall use the same "Cell Update Cause" as before receiving the invalid downlink message. On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.

8.3.1.13.3 Test Purpose

To confirm that the UE retransmits CELL UPDATE message when it receives an erroneous CELL UPDATE CONFIRM message, if the number of retransmissions is not the maximum allowed value. To confirm that the UE returns to idle mode after sending maximum allowed number of CELL UPDATE messages without receiving a valid CELL UPDATE CONFIRM message.

8.3.1.13.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH (state 6-15) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall start to transmit CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message containing a protocol error in IE "DRX Indicator". The UE shall detect the protocol error and re-transmit CELL UPDATE message up to a maximum of N302 times. The time interval between the transmissions shall be approximately equal to T302. SS verifies that it receives a total of (N302+1) identical CELL UPDATE messages. The UE shall return to idle mode after all uplink transmissions have finished. SS verifies this by paging the UE using the U-RNTI identity. The UE shall not respond to this page.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE 1	The UE is in the CELL_PCH state. SS sets its internal counter K=0 and waits for a period equals to timer value T302. SS pages for the UE using the allocated connected mode identity (U-RNTI). If CELL UPDATE message is received upon timer expiry, proceeds to step 2. Else goes to step 5.
2		→	CELL UPDATE	The value "paging response" should be set in IE "Cell update cause".
3		←	CELL UPDATE CONFIRM	SS transmits an invalid message. SS increments K.
4		→	CELL UPDATE	SS waits for T302 timer to expire. The UE shall send CELL UPDATE message.
5				If a CELL UPDATE message is received in step 4, SS increments K, restart T302 timer and returns to execute step 4. Else, SS proceeds to step 6.
6				SS verifies that K = (N302+1) and proceeds to the next step. Else, the test fails.
7		←	PAGING TYPE 1	SS pages the UE.
8				UE shall not respond.

Specific Message Content

CELL UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exception:

Information Element	Value/remark
DRX Indicator	Use one of the spare values.

CELL UPDATE (Step 4)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is set to 'TRUE
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is set to 'Information element value not comprehended'

Paging Type 1 (Step 1 and 7)

Information Element	Value/remark
Page record list	
- Paging record	
- CHOICE Paging originator	UTRAN Originator
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'
BCCH Modification info	Not Present.

8.3.1.13.5 Test Requirement

After step 3 the UE shall continue to transmit CELL UPDATE message for N302 times.

At step 6 the counter K should be equal to (N302+1).

After step 7 the UE shall return to idle mode and not respond the PAGING TYPE 1 message sent by the SS.

8.3.1.14 Cell Update: Radio Bearer Control for Transition from CELL_DCH to CELL_FACH

8.3.1.14.1 Definition

8.3.1.14.2 Conformance Requirement

During a transition from CELL_DCH state to CELL_FACH state arising from the execution of radio bearer control procedure, the UE might be requested to re-select to an unknown cell. The UE shall select a cell and perform cell updating procedure. In order to distinguish the 2 cases of cell updating: (i) due to UE mobility and (ii) due to radio bearer control procedure, the update cause in CELL UPDATE message shall be different for these 2 cases. When the UTRAN receives this message, it is then able to decide whether to initiate RNC reallocation and the establishment of new configuration in the target RNC.

8.3.1.14.3 Test Purpose

To confirm that the UE perform a cell update procedure after being instructed to move from CELL_DCH to CELL_FACH state as a result of radio bearer control procedure. To confirm that the UE indicates cause "RB Control" when transmitting a CELL UPDATE message to the selected cell. To confirm that the UE transmit a compatible response to conclude the radio bearer control procedure.

8.3.1.14.4 Method of Test

Initial Condition

System Simulator: 2 cells – both cell 1 and cell 2 are active and suitable for camping, but with cell 1 having a stronger transmission power.

UE: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_DCH in cell 1~~

Test Procedure

The UE is brought to CELL_DCH state in cell 1, after the UE has successfully performed the RRC connection establishment procedure and was allocated dedicated physical resources. Next SS sends RADIO BEARER SETUP message to the UE on downlink DCCH. In this message, a DTCH channel is assigned to the UE. The UE shall reconfigure its channel resources and then return a RADIO BEARER SETUP COMPLETE message. Following this sequence, the ~~UE~~ SS sends RADIO BEARER RELEASE message to request that all radio bearers carried on dedicated physical channel to be released. However, this message does not contain information about the target cell to select when UE transits to CELL_FACH state. The UE shall perform cell reselection and it shall detect the presence of cell 2. The UE shall send a CELL UPDATE message with cause set to "RB Control" on the uplink CCCH carried by PRACH physical channel, specified in cell 2's system information message. SS replies with CELL UPDATE CONFIRM message, specifying the IE "PRACH Info" and "Secondary CCPCH Info". To complete this procedure, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH, which is carried on the PRACH physical channel specified in system information messages broadcasted in cell 2.

Expected Test Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state after completing a successful RRC connection establishment procedure.
2	←		RADIO BEARER SETUP	Establishes DTCH logical channel.
3	→		RADIO BEARER SETUP COMPLETE	
4	←		RADIO BEARER RELEASE	Information on target cell is not specified.
5	→		CELL UPDATE	UE shall send this message on the uplink CCCH of cell 2. IE "Cell update cause" shall be set to "RB Control".
6	←		CELL UPDATE CONFIRM	IEs "PRACH Info" and IE "Secondary CCPCH Info" are included in this message. IE "DRX Indicator" set to "No DRX".
7	→		RADIO BEARER RELEASE COMPLETE	Sent on the PRACH given in system information messages.

Specific Message Contents

RADIO BEARER SETUP (Step 2)

Use the same message sub-type entitled "Packet to CELL_DCH from CELL_DCH in PS" found in ~~Clause 9 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
RAB information to setup list	
- RAB information for setup	
- RAB Info	
- RAB Identity	4
- CN Domain Identity	PS
- Re-establishment timer	
- T315	1800 seconds
- RB Info to setup list	
- RB Info to setup	
- RB Identity	5
- PDCP Info	Not Present.
- RLC Info	Use the same RLC configuration as in TS 34.108.
- RB Mapping Info	Use the same RLC multiplexing scheme as in TS 34.108.
RB to be affected list	Not Present.
UL Transport Channel information common to all transport channels	
- TFC Subset	Not Present – use default value, all TFCs are allowed.
- CHOICE Mode	FDD
- UL DCH TFCS	
- CHOICE TFCI Signalling	Normal
- TFCI Field 1 Information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10 of TS 34.108.
- CTFC Information	Refer to TS 34.108 – This IE is repeated for the maximum number TFC to be added as specified in TS 34.108 for a selected transport channel
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factors
- Gain factor β_c	0
- Gain factor β_d	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0
Deleted TrCH information list (uplink)	Not Present
- Deleted UL TrCH information	
Added or Reconfigured TrCH information list	
- Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- CHOICE Transport channel type	Dedicated transport channels
- Dynamic Transport Format Information	
- Number of Transport blocks	1
- RLC Size	128 bits
- Semi-static Transport Format	Use the same settings as in TS 34.108
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
DL Transport Channel information common to all transport channels	Not Present
Deleted TrCH information list (downlink)	Not Present
Added or Reconfigured TrCH information list	Not Present
Frequency info	Not Present – use the existing frequency information
Maximum allow UL TX power	Not Present – use the allowable UL TX power as specified by the UE's RF power class.
CHOICE Channel requirement	Not Present.
Downlink information common for all radio links	Not Present.
Downlink information per radio link list	Not Present.

RADIO BEARER SETUP COMPLETE (Step 3)

Only the message type is checked for this message.

RADIO BEARER RELEASE (Step 4)

Use the same message sub-type entitled "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A, with the following exceptions:

~~Information Element~~	~~Value/remark~~

RAB information to release list	
- RB Identity	5
RB information to be affected list	
- RB information to be affected	CCCH for RRC (TM)
- RB identity	0
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- RLC logical channel mapping indicator	Not Present
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	5
- MAC logical channel priority	2
- Logical channel max loss	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- DL Transport channel identity	Not Present
- Logical channel identity	6
- RB information to be affected	DCCH for RRC (UM)
- RB identity	1
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	Not Present – Use default
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
- RB information to be affected	DCCH for RRC (AM)
- RB identity	2
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	Not Present – Use default
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
- RB information to be affected	DCCH for NAS_DT-AM High Priority
- RB identity	3
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	Not Present – Use default
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
- RB information to be affected	DCCH for NAS_DT-AM Low Priority
- RB identity	4
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	Not Present – Use default
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
- RB information to be affected	BCCH for RRC (TM)
- RB identity	5
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- DL Transport channel identity	Not Present
- Logical channel identity	5
- RB information to be affected	PCCH for RRC (TM)
- RB identity	6

Information Element	Value/remark

RAB information to release list	
- RB Identity	5
RB information to be affected list	
- RB information to be affected	CCCH for RRC (TM)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- RLC logical channel mapping indicator	Not Present
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- DL Transport channel identity	Not Present
- Logical channel identity	6
- RB information to be affected	DCCH for RRC (UM)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
- RB information to be affected	DCCH for RRC (AM)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
- RB information to be affected	DCCH for NAS_DT-AM High Priority
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
- RB information to be affected	DCCH for NAS_DT-AM Low Priority
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
- RB information to be affected	BCCH for RRC (TM)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- DL Transport channel identity	Not Present
- Logical channel identity	5
- RB information to be affected	PCCH for RRC (TM)
- RB identity	7
- RB mapping info	

CELL UPDATE (Step 5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'RB Control'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 6)

Use the same message sub-type found in Annex A.

RADIO BEARER RELEASE COMPLETE (Step 7)

Only the message type is checked in this message.

8.3.1.14.5 Test Requirement

After step 4 the UE shall reselect to cell 2, perform a cell update procedure by transmitting CELL UPDATE message. In this message, the IE "Cell Update Cause" shall be set to "RB Control".

After step 6 the UE shall send RADIO BEARER RELEASE COMPLETE message on the DCCH carried by the PRACH channel. The applicable parameters of the PRACH resources are broadcasted on the system information messages of cell 2.

8.3.1.15 Cell Update: Acknowledged Mode RLC Reset

8.3.1.15.1 Definition

8.3.1.15.2 ~~———————~~Conformance Requirement

In CELL_FACH, the UE shall ensure that all AM RLC entities (both signalling and u-plane links) are operational. In the event that an unrecoverable error has occurred, the UE shall trigger cell update procedure to report this event. The UE shall send CELL UPDATE message on the uplink CCCH and set the appropriate AM_RLC error indicator IE(s) to TRUE. After receiving the CELL UPDATE CONFIRM message, the UE shall reset the affected AM RLC entities and then resume transmission and reception activities.

8.3.1.15.3 Test Purpose

To confirm that the UE reports the occurrence of an unrecoverable error in a C-plane AM RLC entity by initiating cell update procedure. To confirm that the UE is able to resume normal C-plane data transmission and reception after the completion of cell update procedure.

8.3.1.15.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~Idle Mode~~

Test Procedure

The UE is initially in ~~idle mode and camped onto cell 1~~CELL_FACH state. ~~SS pages the UE using the IMSI identity stored in the test USIM card, stating the cause as a terminating call with one of the traffic classes supported by the UE. The UE shall respond by transmitting the RRC CONNECTION REQUEST message on the uplink CCCH, triggering the start of RRC connection establishment procedure. SS assigns common physical resources to the UE by sending RRC CONNECTION SETUP message. The UE shall reply with RRC CONNECTION SETUP COMPLETE on the DCCH before transiting to CELL_FACH state. Next,~~ SS sends RADIO BEARER SETUP message on the DCCH using AM mode to establish a DTCH logical channel for u-plane packet data transfer. The UE shall reply with a RADIO BEARER SETUP COMPLETE message, sent using AM RLC on the DCCH. Then it activates the associated DTCH logical channel for user data transmission and reception. SS does not acknowledge the RADIO BEARER SETUP COMPLETE message. The UE shall continue to transmit the AM PDU carrying RADIO BEARER COMPLETE message until the maximum re-transmission count is reached. Thereafter, the UE shall start sending RESET PDUs to request that the AM RLC entity for RRC signalling be re-initialized. SS ignores the requests and wait for a duration equivalent to (MAX_RST+1) times expiry of Timer_RST. This figure is specified in IE "RLC info" of RADIO BEARER SETUP message in step 6. At this point, the UE shall initiate a cell update procedure by transmitting CELL UPDATE message on the uplink CCCH. The CELL UPDATE message shall specify the value "TRUE" in IE "AM_RLC error indicator (for C-plane)". SS replies with CELL UPDATE CONFIRM message using the default message content. SS then attempts to perform a local authentication by transmitting a COUNTER CHECK message using AM RLC on DCCH. The UE shall respond by sending a COUNTER CHECK RESPONSE message on the uplink DCCH, verifying that the AM RLC entity for RRC signalling was successfully reset.

Expected ~~Test~~ Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is initially in ~~idle mode~~CELL_FACH state.
~~2~~	~~←~~		~~PAGING TYPE 1~~	~~SS pages the UE, citing the cause as a terminating call with one of the supported traffic classes in the PAGING TYPE 1 message.~~
~~3~~	~~→~~		~~RRC CONNECTION REQUEST~~	~~Sent on CCCH using transparent mode.~~
~~4~~	~~←~~		~~RRC CONNECTION SETUP~~	~~Allocate common physical resources for signalling RBs.~~
~~5~~	~~→~~		~~RRC CONNECTION SETUP COMPLETE~~	~~Sent on CCCH using transparent mode.~~
~~6~~2	←		RADIO BEARER SETUP	Establishes a DTCH logical channel operating in AM mode.
~~7~~3	→		RADIO BEARER SETUP COMPLETE	UE shall stay in CELL_FACH state. SS does not acknowledge this AM PDU. The UE shall re-transmit this AM PDU until the maximum number has been reached.
~~8~~4				UE shall start to transmit RESET PDU using AM RLC on the DCCH. SS does not respond to any PDU frames originating from the UE, and it waits for a period equivalent to (MAX_RST+1) times expiry of Timer_RST. This figure is specified in IE "RLC info" of RADIO BEARER SETUP message in step 6.
~~9~~5	→		CELL UPDATE	UE shall send this message on CCCH. IE "AM_RLC Error Indication (for C-plane)" shall be set to 'TRUE'
~~10~~6	←		CELL UPDATE CONFIRM	"DRX Indicator" set to "No DRX". UE shall transit to CELL_FACH state.
~~11~~7	←		COUNTER CHECK	SS requests for a local authentication of the amount of data sent/received during the lifetime of the RRC connection.
~~12~~8	→		COUNTER CHECK RESPONSE	This message shall be transmitted using AM RLC for RRC signalling on the uplink DCCH.

Specific Message Contents

~~PAGING TYPE 1 (Step 2)~~

~~Use the same message sub-type entitled "TM (Packet in PS)" found in Clause 9 of TS34.108.~~

~~RRC CONNECTION REQUEST (Step 3)~~

~~Information Element~~	~~Value/remark~~
~~Initial UE Identity~~	~~Check to sse if set to same value as the IMSI identity stored in the test USIM card.~~
~~Initial UE Capability~~	
~~- Maximum number of AM entities~~	~~Check to see if set to '4 to 8' or '16 to 32'.~~
~~Establishment Cause~~	~~Check to see if set to Terminating Call of a supported traffic class.~~
~~Protocol Error Indicator~~	~~Check to see if set to 'FALSE'.~~
~~Measured Results on RACH~~	~~Not checked.~~

~~RRC CONNECTION SETUP (Step 4)~~

~~Use the same message sub-type entitled "Transition to CELL_FACH" found in Clause 9 of TS34.108.~~

~~RRC CONNECTION SETUP COMPLETE (Step 5)~~

~~Only the message type IE is checked in this message.~~

RADIO BEARER SETUP (Step ~~6~~2)

Use the same message sub-type entitled "Packet to CELL_FACH from CELL_FACH in PS" found in ~~Clause 9 of TS34.108~~Annex A.

RADIO BEARER SETUP COMPLETE (Step ~~7~~3)

Only the message type IE is checked for this message.

CELL UPDATE (Step ~~9~~5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'TRUE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Not checked
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step ~~10~~6)

Use the same message sub-type found in ~~Clause 9 of TS34.108~~Annex A.

COUNTER CHECK (Step ~~11~~7)

Information Element	Values/Remarks
Integrity check info	Not present
RB COUNT-C MSB Information	
- RB Identity	5
- COUNT-C-MSB-uplink	Set to an arbitrary integer equals to the 25 MSBs from COUNT-C for RB#5
- COUNT-C-MSB-downlink	Set to an arbitrary integer equals to the 25 MSBs from COUNT-C for RB#5

COUNTER CHECK RESPONSE (Step ~~12~~8)

Information Element	Values/Remarks
Integrity check info	Not checked
RB COUNT-C Information	Not checked
- RB Identity	
- COUNT-C-uplink	
- COUNT-C-downlink	

8.3.1.15.5 Test Requirement

After step ~~8~~ 4 the UE shall transmit a CELL UPDATE message on the uplink CCCH to report the occurrence of an unrecoverable error in AM RLC entity for C-plane data.

After step ~~11~~ 7 the UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH. This message shall be sent using the AM RLC entity for RRC signalling.

8.3.2 URA Update

8.3.2.1 URA Update: URA reselection

8.3.2.1.1 ~~———————~~Definition

8.3.2.1.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE after a URA reselection has occurred in URA_PCH state. It may also be used for supervision of the RRC connection, even if- no URA reselection takes place.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.1.3 Test purpose

To confirm that the UE executes ~~a~~an URA update procedure after the successful URA reselection.

8.3.2.1.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active with URA-ID 1,Cell 2 is inactive with URA-ID 2

UE: URA_PCH (state 6-16) as specified in clause 7.4 of TS 34.108, with URA-ID 1 ~~in~~ from the list of URA-ID ~~from~~ in cell 1

Test Procedure

The UE is in the URA_PCH state and assigned with only 1 URA identity in cell 1: URA-ID 1. The SS starts to broadcast BCCH in cell 2 with URA-ID 2 and stop transmitting BCCH in cell 1. This is expected to cause the UE to perform a cell reselection to cell 2. When the UE finds that ~~URA-ID 2~~its current URA-ID 1 is not in ~~its current~~the new broadcasted list of URA-IDs, it moves to CELL_FACH state and transmits a URA UPDATE message on the uplink CCCH. After the SS receives this message, it transmits URA UPDATE CONFIRM message which includes the IEs “DRX Indicator” and “URA-ID” to the UE on the downlink DCCH. The “DRX Indicator” is set to “DRX with URA updating”. Finally, the UE returns to URA_PCH state in cell 2 without sending a uplink response message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is updated with only 1 URA identity carried currently by cell 1. The starting state of the UE is URA_PCH
2	←		BCCH	SS starts sending BCCH for cell 2 with URA-ID 2 and ceases to transmit BCCH with URA-ID 1 carried by cell 1.
3	→		URA UPDATE	The UE shall perform a cell reselection first and ~~then~~ when it finds that ~~a new URA-ID 2~~its current URA-ID 1 is not in the new broadcasted list of ~~its~~ URA-IDs~~ stored. ~~, ~~I~~it shall then transmit this message and set value "URA reselection" into IE "URA update cause".
4	←		URA UPDATE CONFIRM	Message comprises IE "DRX Indicator" set "DRX with URA updating", and also IE "URA Identity" equals to "URA-ID 2".

Specific Message Contents

URA UPDATE (Step 3)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator	Check to see if set to 'FALSE'
URA Update Cause	Check to see if set to 'Change of URA'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Protocol error information	Check to see if it is absent

URA UPDATE CONFIRM (Step 4)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
DRX Indicator	DRX with URA updating

8.3.2.1.5 Test requirement

After step 2 the UE shall find that URA-ID 2 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and transmit URA UPDATE message setting value "Change of URA" into IE "URA update cause".

8.3.2.2 URA Update: periodical URA update

8.3.2.2.1 ~~————————~~Definition

8.3.2.2.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE when the UE detects that it is still within the service area after the expiry of periodic URA updating timer T306.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.2.3 Test purpose

To confirm that the UE executes a URA update procedure after the expiry of timer T306. To verify that the UE handles an invalid URA UPDATE CONFIRM message correctly when executing the URA update procedure.

8.3.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH ~~with URA-ID 1~~(state 6-16) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the URA_PCH state ~~with URA-ID 1~~. When the UE detects the expiry of timer T306, set according to the value specified in system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. The message shall indicate the cause to be "periodic URA update" in IE "-URA update cause". SS replies with an illegal URA UPDATE CONFIRM message sent on downlink CCCH, and check to see if the UE handles this event properly. The UE shall attempt to retransmit the identical URA UPDATE message. After the SS receives the second URA UPDATE message, it transmits a correct URA UPDATE CONFIRM message, which includes the IE " new U-RNTI", to the UE on the downlink DCCH. Then the UE shall then transmits an RNTI REALLOCATION COMPLETE message on the uplink DCCH. The UE returns to CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the URA_PCH state. SS wait until T306 timer has expired.
2	→		URA UPDATE	UE shall transmit this message and set value "periodic URA update" into IE "-URA update cause".
3	←		URA UPDATE CONFIRM	SS sends an illegal message.
4	→		URA UPDATE	UE shall not return to idle mode immediately, but attempts to re-transmit this message.
5	←		URA UPDATE CONFIRM	Including IEs" new C-RNTI" , and "new U-RNTI"
6	→		RNTI REALLOCATION COMPLETE	

Specific Message Contents

URA UPDATE (Step 2 and 4)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Integrity check info AM_RLC error indicator URA Update Cause Protocol error indicator Protocol error information	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Not checked Check to see if set to 'FALSE' Check to see if set to 'Periodic URA update' Check to see if it is absent or set to 'FALSE' Check to see if it is absent

URA UPDATE CONFIRM (Step 3)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
U-RNTI	Not Present

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI SRNC Identity S-RNTI	 '0000 0000 0001' '0000 0000 0000 0000 1111'

RNTI REALLOCATION COMPLETE (Step 6)

Only the message type IE of this message is checked.

8.3.2.2.5 Test requirement

After step 2 the UE shall detect the expiry of timer T306, move to CELL_FACH state, and transmit a URA UPDATE message which is set the value "periodic cell update" into IE "URA update cause".

After step 3 the UE shall re-transmit URA UPDATE message.

After step 5 the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH and returns to the CELL_FACH state.

8.3.2.3 URA Update: re-entering of service area after T306 expiry

8.3.2.3.1 ~~Definition~~

8.3.2.3.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE if the UE detects that it is out of service area after the expiry of timer T306, and then subsequently re-enters the service area before the expiry of T307.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.3.3 Test purpose

To confirm that the UE executes a URA update procedure when the UE re-enters the service area before the expiry of timer T307, after being out of service area at the expiry of timer T306.

8.3.2.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-16) as specified in clause 7.4 of TS 34.108~~updated with URA-ID 1~~

Test Procedure

The UE is initially in URA_PCH state~~, updated with URA-ID 1~~. SS decrease the transmission power of cell such that cell selection figure of merit S<0. When the UE detects the expiry of timer T306 according to the system information, the UE moves to CELL_FACH state and finds that it is out of service area. The UE is expected to search for cell to camp. Then SS increases the transmission power so that the UE detects that it returns to normal service within T307. The UE shall move to CELL_FACH state and starts transmitting a URA UPDATE message which contains the value “periodic URA update” in IE ”-URA update cause” to the SS on the uplink CCCH. After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE ”new C-RNTI”, and “ new U-RNTI” to the UE on the downlink DCCH. Then the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE starts operating from URA_PCH state.
2				SS decreases the transmission power such that the cell is no longer suitable for camping i.e. S<0.
3				The UE shall attempt to perform a URA update upon the expiry of timer T306. It shall discover that it is out of service and starts searching for cell to camp.(T307 timer starts)
4				SS increases the transmission power to the original level before T307 expires.
5		→	URA UPDATE	Value “periodic URA update” shall be set in IE ”-URA update cause”
6		←	URA UPDATE CONFIRM	The message includes IEs” new C-RNTI” , and “new U-RNTI”
7		→	RNTI REALLOCATION COMPLETE	

Specific Message Contents

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, with the following exceptions:

URA UPDATE CONFIRM (Step 6)

Information Element	Value/remark
New U-RNTI - SRNC Identity - S-RNTI	'0000 0000 0001' '0000 0000 1111 1111'
New C-RNTI	Arbitrary 16-bit string which is different the assigned C-RNTI in RRC CONNECTION SETUP message.

8.3.2.3.5 Test requirement

After step 2 the UE shall detect that it is out of service area and shall not send a URA UPDATE on the uplink CCCH channel.

After step 4 the UE shall transmit a URA UPDATE message which sets value "periodic URA update" into IE " URA update cause", before the expiry of timer T307.

After step 6 the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH.

8.3.2.4 URA Update: loss of service after expiry of timers T307 and T306

8.3.2.4.1 ~~———————~~Definition

8.3.2.4.2 Conformance requirement

This procedure is required to handle the case when the UE fails to update UTRAN with the current URA of after expiry of timers T307 and T306 consecutively. The UE shall move to idle mode subsequently.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.4.3 Test purpose

To confirm that the UE moves to idle mode after the expiry of timer T307, following an expiry of timer T306 when it discovers that it is out of service area.

8.3.2.4.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: URA_PCH ~~updated with URA-ID 1~~(state 6-16) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in URA_PCH state~~ with URA-ID 1~~. SS stops the downlink transmissions of cell 1. When the UE detects the expiry of periodic URA updating timer T306 according to the system information, the UE moves to CELL_FACH state and detects that it is out of service area. After the expiry of timer T307, the UE moves to the idle state and start to perform cell reselection.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				Initially, the UE is in the URA_PCH state.
2				SS switched off the downlink transmission of cell 1 so that the UE detects that it is out of service area.
3				Upon the expiry of timer T306, the UE shall search for cell to camp and triggers T307 timer. SS listens to the uplink CCCH to verify that ~~CELL~~ URA UPDATE message is not transmitted.
4				After the expiry of timer T307, the UE enters idle state.

Specific Message Contents

None

8.3.2.4.5 Test requirement

After step 2 the UE shall detect the expiry of timer T306, not transmit URA UPDATE message on the uplink CCCH, move to CELL_FACH state, and start timer T307.

8.3.2.5 URA Update: Success after Confirmation error of URA-ID list

8.3.2.5.1 ~~———————~~Definition

8.3.2.5.2 Conformance requirement

While in connected mode, the UE keeps a temporary list of URA-IDs broadcasted in a cell. The UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA of the UE. UTRAN should respond to the URA UPDATE message by sending a URA UPDATE CONFIRM message. When the indicated URA-ID in the received URA UPDATE CONFIRM message is not found in the temporary list of URA-IDs, the UE transmits a URA UPDATE message repeatedly until its internal counter V303 is greater than N303.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.5.3 Test purpose

To confirm that the UE retries to perform the URA update procedure following a confirmation error of URA-ID list.

8.3.2.5.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-16) as specified in clause 7.4 of TS 34.108~~updated with URA-ID 1~~

Test Procedure

At the start of this test, the UE is brought to URA_PCH state and assigned a URA with URA-ID 1. When the UE detects the expiry of timer T306 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. The reason for performing URA updating shall be set to "periodic URA update" in IE "-URA update cause". After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE "new C-RNTI"," new U-RNTI" and "URA-ID 2" to the UE on the downlink DCCH. The UE finds that the indicated URA-ID is not included in the temporary list of URA-IDs stored, then the UE shall retry to transmit a URA UPDATE message for a confirmation error of URA-ID list. SS continue to send the same URA UPDATE CONFIRM message until N303 URA UPDATE messages have been received. Then SS transmits a URA UPDATE CONFIRM message to the UE which includes IE "URA Identity" set to " URA-ID 1". The UE shall find this URA-ID in its URA-ID list and transmits an RNTI REALLOCATION COMPLETE message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is URA_PCH state. SS initializes counter K to 0
2		→	URA UPDATE	This message shall contain value "periodic URA update" set in IE "-URA update cause" after expiry of timer T306.
3				SS increments K by 1.
4		←	URA UPDATE CONFIRM	SS transmits this message, setting the value "URA-ID 2" to IE "URA Identity". If K is not greater than N303, SS waits for T303 to expires and then returns to step 2. If K is greater than N303, SS proceeds to step 5.
5		←	URA UPDATE CONFIRM	SS transmits this message, setting IE "URA Identity" to "URA-ID 1". This message also comprises IE "New U-RNTI".
6		→	RNTI REALLOCATION COMPLETE	

Specific Message Contents

URA UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator	Check to see if set to 'FALSE'
URA Update Cause	Check to see if set to 'Periodic URA update'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Protocol error information	Check to see if it is absent

URA UPDATE CONFIRM (Step 4)

Use the same message sub-type as specified in ~~TS 34.108 Clause 8~~Annex A, with the following exceptions:

Information Element	Value/remark
DRX Indicator	DRX with ~~Cell~~ URA updating
URA Identity	2

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as specified in ~~TS 34.108 Clause 8~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
SRNC Identity	'0000 0000 0001' '0000 0000 0000 0101 0101'
S-RNTI	
URA Identity	1

RNTI REALLOCATION COMPLETE (Step 6)

Only the message type IE in this message is checked.

8.3.2.5.5 Test requirement

After step 1 the UE shall detect the expiry of timer T306, move to CELL_FACH state, transmit a URA UPDATE message on the uplink CCCH and set value "periodic URA update" into IE "URA update cause".

After step 2 the UE shall repeatedly re-transmit a URA UPDATE message after it detects a confirmation error of URA-ID list for the URA-ID indicated in the URA UPDATE CONFIRM message. A total of (N303+1) URA UPDATE messages shall be received by the SS.

After step 5 the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH.

8.3.2.6 URA Update: Failure (V303 is greater than N303: Confirmation error of URA-ID list)

8.3.2.6.1 Definition

8.3.2.6.2 Conformance requirement

While in connected mode, the UE keeps a temporary list of all URA-IDs broadcasted in a cell. It transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA of the UE. When the indicated URA-ID in the received URA UPDATE CONFIRM message is not in the list of URA-IDs, the UE transmits URA UPDATE messages repeatedly until its internal counter V303 is greater than N303. If V303 is greater than N303 then the UE enters idle state.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.6.3 Test purpose

To confirm that the UE make repeated attempts to perform the URA update procedure following a detection of a confirmation error of URA-ID list. It then moves to idle state when internal counter V303 is greater than N303.

8.3.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH (state 6-16) as specified in clause 7.4 of TS 34.108~~updated with URA-ID 1~~

Test Procedure

The UE is originally in the URA_PCH state updated with URA-ID 1. When the UE detects the expiry of timer T306 according to the system information, the UE shall move to CELL_FACH state and transmit a URA UPDATE message to the SS on the uplink CCCH. In this message, the value “periodic URA update” shall be set in IE_”-URA update cause”. After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE_”new C-RNTI”,“ new U-RNTI” and indicating the IE_”URA Identity” to be “URA-ID 2” to the UE on the downlink DCCH. The UE finds that the indicated URA-ID is not included in the list of URA-IDs broadcasted, the UE shall retry to transmit a URA UPDATE message for N303 times. After that, the UE shall enter idle state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in URA_PCH state at the start of the test. SS sets internal counter K to 1.
2	→		URA UPDATE	The message shall indicate “periodic URA update” in IE_” URA update cause”. This message is sent following the expiry of timer T306. SS increments counter K by 1.
3	←		URA UPDATE CONFIRM	The SS transmit this message and set IE_”URA Identity” to “URA-ID 2” . When K greater than N303 proceeds to step 4, else SS waits for T303 to expires and executes step 2.
4				SS waits for a T306 to verify that no further URA UPDATE messages are transmitted by UE. The counter K shall be equal to (N303+1). The UE shall enter idle state.

Specific Message Contents

URA UPDATE CONFIRM (Step 4)

Use the same message sub-type defined in ~~TS 34.108 Clause 8~~Annex A, with the following exceptions:

Information Element	Value/remark
URA Identity	2

8.3.2.6.5 Test requirement

After step 1 the UE shall detect the expiry of timer T306, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH, setting value “periodic URA update” into IE_”-URA update cause”.

After step 2 -the UE shall retry to transmit a URA UPDATE message after it detects the confirmation error of URA-ID list for the URA-ID included in the URA UPDATE CONFIRM message.

After step 3 the UE shall stop transmitting URA UPDATE message and then enters idle state. The counter K shall be equal to (N303+1).

8.3.2.7 URA Update: Success after T303 timeout

8.3.2.7.1 ~~———————~~Definition

8.3.2.7.2 Conformance requirement

The UE transmits ~~a~~an URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA identity stored the UE. When the UE fails to receive any URA UPDATE CONFIRM message after T303 timer expiry, it transmits a URA UPDATE message repeatedly at an interval of T303 timer value until its internal counter V303 is greater than N303.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.7.3 Test purpose

To confirm that the UE attempts to repeat the URA update procedure upon the expiry of timer T303. To confirm that a maximum of N303 re-transmission is performed.

8.3.2.7.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: URA_PCH (state 6-16) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the URA_PCH. When the UE detects the expiry of timer T306 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH, setting value “periodic URA update” into IE ”-URA update cause”. The SS ignores this message, the UE shall then retry to transmit a URA UPDATE message after the expiry of timer T303. SS continues to ignore further URA UPDATE message until it receives (N303+1) such message. Then it transmits a URA UPDATE CONFIRM message to the UE which includes ~~Ies~~IEs ”new C-RNTI”,” new U-RNTI”. The UE shall then transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in URA_PCH state at the beginning of test. SS sets counter K to 1. SS waits for T306 to expire.
2	→		URA UPDATE	This message shall contain value “periodic URA update” in IE ”-URA update cause” sent upon the expiry of timer T306.
3				SS increments K by 1.
4				If K is not greater than N303, SS transmits no response to the UE, waits for an additional period equals to T303 timer and returns to step 2. Else, SS executes step 5.
5	←		URA UPDATE CONFIRM	This message includes IEs” new C-RNTI” , “new U-RNTI”
6	→		RNTI REALLOCATION COMPLETE	

Specific Message Contents

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as in ~~TS 34.108 Clause 8~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
SRNC Identity	'0000 0000 0001'
S-RNTI	Arbitrary 20-bit string which is different from S-RNTI field in IE "U-RNTI"
New C-RNTI	Arbitrary 16-bit string which is different the assigned C-RNTI in RRC CONNECTION SETUP message.

8.3.2.7.5 Test requirement

After step 1 the UE shall detect the expiry of timer T306, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH. The updating cause shall be set to "periodic URA update" in IE "-URA update cause".

After step 2 the UE shall retry to transmit a URA UPDATE message at each expiry of timer T303. UE shall attempt to re-transmit N303 URA UPDATE messages.

After step 5 the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH.

8.3.2.8 URA Update: Failure (V303 is greater than N303:T303 timeout)

8.3.2.8.1 ~~——————~~Definition

8.3.2.8.2 Conformance requirement

The UE transmits ~~a URA~~a URA UPDATE message to the UTRAN when it needs to update the UTRAN with the current URA of the UE. When the UE fails to receive the URA UPDATE CONFIRM message~~.~~, the UE transmits a URA UPDATE message repeatedly after every expiry of T303 until its internal counter V303 is greater than N303. If V303 is greater than N303, UE stops sending URA UPDATE message and then enters idle state.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.8.3 Test purpose

To confirm that the UE retries to perform the URA update procedure upon expiry of timer T303 and moves to idle state after retrying for N303 times.

8.3.2.8.4 Method of test

Initial Condition

System Simulator~~-~~: 1 cell

UE~~-~~: URA_PCH (state 6-16) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the URA_PCH state. When the UE detects the expiry of timer T306 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. This message shall contain value "periodic URA update" in IE "-URA update cause". SS

ignores this message, the UE shall continue to transmit URA UPDATE messages for N303 times after the expiry of timer T303. After N303 re-transmissions, the UE shall enter idle state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in URA_PCH state and SS sets counter K=0. SS wait until T303 expires.
2	→		URA UPDATE	The value "periodic URA update" shall be set in IE " URA update cause".
3				SS ignores the message, waits for T303 timer to expire and increments K by 1. If a message is received after T303 expiry, return to step 2. Else, go to step 4.
4				SS checks that K is equal to (N303+1).
5				The UE shall enter idle state.

Specific Message Contents

None

8.3.2.8.5 Test requirement

After step 1 the UE shall detect the expiry of timer T306, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH, setting "periodic URA update" into IE "-URA update cause".

After step 2 the UE shall retry to transmit a URA UPDATE message after the expiry of timer T303. SS shall receive (N303+1) CELL UPDATE message. After this, the UE shall enter idle state.

8.3.3. RNTI reallocation

8.3.3.1 RNTI reallocation: Success

8.3.3.1.1 ~~Definition~~

8.3.3.1.2 Conformance requirement

This procedure is used by the network to assign a new RNTI identity to the UE. It is initiated by the UTRAN when it sends an RNTI REALLOCATION message, which includes a new C-RNTI and/or U-RNTI on the downlink DCCH. The UE starts to use the new identities and transmits an RNTI REALLOCATION COMPLETE message to the UTRAN on the uplink DCCH.

Reference

3GPP TS 25.331 clause 8.3.3

8.3.3.1.3 Test purpose

To confirm that the UE starts to use the new identities after it receives an RNTI REALLOCATION message from the SS. To confirm that the UE use the new U-RNTI identity to calculate the applicable paging occasions.

[Editor's note] In this test case, it is assumed that the paging occasion during connected states is determined using U-RNTI. From TS 25.304 Clause 8, this assumption cannot be confirmed. Further clarification is required regarding this issue.

8.3.3.1.4 Method of test

Initial Condition

System Simulator~~-~~: 1cell

UE~~-~~: CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_FACH~~

Test Procedure

Initially, the UE is in the CELL_FACH state and it has been assigned a C-RNTI and U-RNTI. The SS transmits an RNTI REALLOCATION message which includes new C-RNTI and U-RNTI to the UE. Then the UE shall transmit an RNTI REALLOCATION COMPLETE message as confirmation and transits to CELL_PCH state. SS pages the UE by sending a PAGING TYPE 1 message and specifying the newly assigned U-RNTI identity in this message. The UE shall transmit a CELL UPDATE message to the SS on the uplink CCCH which includes the U-RNTI identical to that found in RNTI REALLOCATION message received in step 2. The CELL UPDATE message shall also contain IE "Cell update cause" with this IE set to "paging response". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes IE "DRX Indicator" set to value "No DRX" to the UE on the downlink DCCH. The UE shall return to CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of the UE is CELL_FACH state. UE has been allocated both C-RNTI and U-RNTI during RRC connection establishment phase.
2		←	RNTI REALLOCATION	Contains new C-RNTI and U-RNTI identities.
3		→	RNTI REALLOCATION COMPLETE	
4		←	PAGING TYPE 1	SS pages the UE using the new U-RNTI allocated in step 2.
5		→	CELL UPDATE	UE shall trigger cell updating. The message shall indicate the same U-RNTI assigned in the RNTI REALLOCATION message in step 2.
6		←	CELL UPDATE CONFIRM	IE "DRX indicator" is set to "No DRX".

Specific Message Content

RNTI REALLOCATION (Step 2)

Use the same message sub-type as in ~~TS 34.108 Clause 8~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0101 0101 0101 0101 0101'
New C-RNTI	'1010 1010 1010 1010'
DRX Indicator	DRX with cell updating

RNTI REALLOCATION COMPLETE (Step 3)

Only the message type IE is checked in this message.

PAGING TYPE 1 (Step 4)

Use the same message sub-type as in TS 34.108 Clause ~~8~~9, with the following exceptions:

Information Element	Value/remark
Page Record List	
- Paging record	
- CHOICE Paging ~~orginator~~originator	UTRAN originator
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0101 0101 0101 0101 0101'
BCCH modification info	Not Present

CELL UPDATE (Step 5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0101 0101 0101 0101 0101'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Hyper frame number	Check to see if it is present
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 6)

Use the same message sub-type as in ~~TS 34.108 Clause 8~~Annex A.

8.3.3.1.5 Test requirement

After step 2 the UE shall transmit an RNTI REALLOCATION COMPLETE message on the uplink DCCH. The MAC PDU carrying this message shall comprise either the new C-RNTI or U-RNTI allocated in the "UE-id" field of the MAC header.

After step 4 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE "Cell update cause" set to "paging response". The IE "U-RNTI" shall be identical to the IE "New RNTI" found in RNTI REALLOCATION message sent by the SS in step 2.

8.3.3.2 RNTI reallocation: Failure (Invalid message reception)

8.3.3.2.1 ~~Definition~~

8.3.3.2.2 Conformance Requirements

When the UE receives an RNTI REALLOCATION message, which contains an error in one of the mandatory IE, it shall transmit a RNTI REALLOCATION FAILURE message on the DCCH using AM RLC and set the value "protocol error" in the IE "failure cause". The IE "protocol error information" in this message shall also be set to an appropriate value. The UE shall not utilize any identities relayed in the erroneous message, and it shall resume normal operations.

8.3.3.2.3 Test Purpose

To confirm that the UE ignore the new connected mode identities conveyed in an erroneous RNTI REALLOCATION message. To confirm that the UE report this event to the UTRAN by sending RNTI REALLOCATION FAILURE message, stating the appropriate failure cause and information.

8.3.3.2.4 Method of test

Initial Conditions

System Simulator~~-~~: 1 cell

UE~~-~~: CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_FACH~~

Test Procedure

The UE is brought to CELL_FACH state. SS transmits a RNTI REALLOCATION message to the UE on the DCCH using UM-RLC mode. In this message, the IE "DRx Indicator" is set to one of the spare values. A new U-RNTI identity is also present in this message. The UE shall respond by transmitting the RNTI REALLOCATION FAILURE message, indicating "protocol error" in IE "failure cause" and also "Information element not comprehended" in IE "Protocol error information". After receiving the RNTI REALLOCATION

FAILURE message, SS waits for a duration to allow T305 to expire. The UE shall transmit CELL UDPATE message with the original U-RNTI identity assigned. SS complete this test by sending CELL UPDATE CONFIRM message to the UE on the downlink DCCH.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of the UE is CELL_FACH state.
2	←		RNTI REALLOCATION	Contains a new U-RNTI identity, but a spare value is used in the IE "DRx indicator"
3	→		RNTI REALLOCATION FAILURE	UE shall transmit this message to report the error in RNTI REALLOCATION message. It shall include the appropriate cause in the message.
4				SS waits for a period up to timer T305 to allow the UE to start performing a cell updating procedure.
5	→		CELL UPDATE	UE shall trigger periodic cell updating. The message shall not contain the U-RNTI given in the RNTI REALLOCATION message in step 2.
6	←		CELL UPDATE CONFIRM	

Specific Message Content

RNTI REALLOCATION (Step 2)

Use the same message sub-type as in ~~TS 34.108 Clause 8~~Annex A, with the following exceptions:

Information Element	Value/remark
New U-RNTI - SRNC Identity - S-RNTI DRX Indicator	 0000 0000 0001B 0000 0000 0000 0000 00011B Set to one of the spare value

RNTI REALLOCATION FAILURE (Step 3)

Information Element	Value/remark
Failure Cause Protocol Error Information	Check to see if set to 'Protocol error' Check to see if set to 'Information Element not comprehended'

CELL UPDATE (Step 5)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Integrity check info AM_RLC error indicator (for C-plane) AM_RLC error indicator (for U-plane) Hyper frame number Cell update cause Protocol error indicator Measured results on RACH Protocol error information	Shall be the same as the original U-RNTI allocated Check to see if set to '~~0000~~ 0000 0000 0001'B Check to see if set to '~~0000~~ 0000 0000 0000 0000 0001'B Not checked Check to see if set to 'FALSE' Check to see if set to 'FALSE' Check to see if it is present Check to see if set to 'Periodic Cell Updating' Check to see if it is absent or set to 'FALSE' Check to see if it is absent Check to see if it is absent

CELL UPDATE CONFIRM (Step 6)

Use the same message sub-type as in ~~TS 34.108 Clause 8~~Annex A

8.3.3.2.5 Test Requirement

After step 2 the UE shall transmit RNTI REALLOCATION FAILURE message, indicating the value “protocol error” in IE ”failure cause” and also “information element not comprehended” in IE ”protocol error information”.

After step 4 the UE shall initiate a periodic cell updating procedure by transmitting CELL UPDATE message on the CCCH. In this message, the U-RNTI identity shall be set to the same value as assigned during the RRC connection establishment procedure.

8.3.4 Active set update in soft handover

8.3.4.1 Active set update in soft handover: Radio Link addition

8.3.4.1.1 ~~———————~~Definition

8.3.4.1.2 Conformance requirement

Radio link addition is triggered in the network’s RRC layer. The RRC entity in the network first configures the new radio link. Transmission and reception then begin immediately. This procedure is to update the active set of the connection between the UE and UTRAN. The UTRAN then transmits an ACTIVE SET UPDATE message to the UE. The UE configures layer 1 to begin reception for the additional radio link. After the UE receives confirmation from the physical layer in the UE, an ACTIVE SET UPDATE COMPLETE message is sent to the UTRAN.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.1.3 Test purpose

To confirm that the UE continues to communicate with the SS on both the additional radio link and an already existing radio link after the radio link addition.

8.3.4.1.4 Method of test

Initial Condition

System Simulator~~-~~: 2cells - Cell 1 is active~~-~~, Cell 2 is active

UE~~-~~: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_DCH in cell 1~~

Test Procedure

Initially, the UE establishes a radio access bearer in the CELL_DCH state in cell 1. The SS begins to configure the new radio link to be added from cell 2. Then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE ” Radio Link Addition Information”~~.~~ (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID). When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. After the UE confirms the synchronization with the new radio link from cell 2, the UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. The UE continues to communicate with the SS on the both radio links. To test this condition, SS ceases the operations of all uplink and downlink DPCH from cell 1. SS shall observe that the data communication for both DCCH and DTCH channels continue as per normal using cell 2, as if cell 1 is still operational.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state in cell 1, after the successful establishment of a radio access bearer service.
2				The SS configures an additional radio link in the downlink direction from cell 2.
3	←		ACTIVE SET UPDATE	SS transmits this ~~massage~~message in cell 1 ~~-~~on downlink DCCH using AM RLC. The message includes IE "~~-~~Radio Link Addition Information". (e.g. Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID in cell 2)
4	→		ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link to cell 2, without interfering with existing connections on the radio link in cell 1. SS ceases all Tx and Rx activities in cell 1. But it shall be able to communicate with UE through cell 2.

Specific Message Content

ACTIVE SET UPDATE

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 2
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- CHOICE Spreading factor	512
- Code Number	For each DPCH, assign the same code number in the current code given in cell 1.
- Scrambling code change	Not Present
- TPC Combination Index	Not Present
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- Secondary CCPCH Info	Not Present
- TFCS	Not Present
- FACH/PCH Information	Not Present
- Reference to other system information blocks	Not Present
Radio link removal information	Not Present

8.3.4.1.5 Test requirement

After step 3 the UE shall configures a new radio link to cell.2, with the connection on the old radio link in cell 1 remaining operational and unaffected. It shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC to acknowledge the completion of the active set additional procedure.

After step 4 the SS shall continue to communicate with the UE using the radio links added to the UE from cell 2.

8.3.4.2 Active set update in soft handover-: Radio Link removal

8.3.4.2.1 Definition

8.3.4.2.2 Conformance requirement

This procedure is to update the active set of the connection between the UE and the UTRAN after the UTRAN has commanded a removal of a radio link from the current active set. The UTRAN RRC transmits an ACTIVE SET UPDATE message to the UE RRC. The UE RRC requests UE L1 to terminate transmission and reception of the radio link to be removed. The UE shall continue to communicate normally with the UTRAN using the new active set, without losing the connection link. After this the UE acknowledges the radio link removal by sending an ACTIVE SET UPDATE COMPLETE message to the UTRAN on DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.2.3 Test purpose

To confirm that the UE continues to communicate with the SS on the remaining radio link after radio link removal on the active set.

8.3.4.2.4 Method of test

Initial Condition

System Simulator-: 2cells - both Cell 1 and Cell 2 are active

UE-: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_DCH in cell 1~~

Test Procedure

At the start of the test, the UE establishes a radio access bearer service in the CELL_DCH state in cell 1. This is followed by a radio link addition procedure in cell 2. SS then transmits an ACTIVE SET UPDATE message, which includes IE "Radio Link Removal Information" and specifying the P-CPICH information of the cell to be removed. When the UE receives this message, the UE RRC entity shall request UE L1 entity to terminate transmission and reception of the radio link from cell 1. Then the UE transmits an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. The UE shall continue to communicate with the SS on the remained radio link in cell 2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL DCH state in cell 1. SS executes test 8. 3.4.1, and the UE shall update the active set to contain cell 1 and cell 2 after the radio link addition procedure.
2	←		ACTIVE SET UPDATE	The SS transmits this ~~massage~~message on downlink DCCH using AM RLC which includes IE "Radio Link Removal Information".
3	→		ACTIVE SET UPDATE COMPLETE	The UE shall remove the radio link associated with cell 1.
4				The SS stops transmission on

Specific Message Contents

ACTIVE SET UPDATE

The message to be used in this test is the same as the message sub-type found in ~~TS 34.108 clause 8~~Annex A, with the following exceptions:

Information Element	Value/remark
Radio link addition information Radio link removal information - Primary CPICH info - Primary scrambling code	Not Present 1 radio link to be removed Set to the same P-CPICH scrambling code assigned for cell 1

8.3.4.2.5 Test requirement

After step 2 the UE shall remove the radio link from cell 1 and it shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC.

After step 3 the UE shall continue to communicate on the remaining radio link from cell 2.

8.3.4.3 Active set update in soft handover: Combined radio link addition and removal (active set is not full)

8.3.4.3.1 Definition

8.3.4.3.2 Conformance requirement

When radio links are to be replaced, the UTRAN RRC first configures the UTRAN L1 to activate the radio link(s) that are being added. The UTRAN RRC then transmits an ACTIVE SET UPDATE message to the UE RRC, which shall configure the UE L1 to terminate transmission and reception on the removed radio link(s) and begin transmission and reception on the added radio link(s). At the completion of the reconfiguration of radio links, the UE shall acknowledge the replacement with an ACTIVE SET UPDATE COMPLETE message.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.3.3 Test purpose

To confirm that the UE continues to communicate with the SS on the added radio link and removes radio link which exists prior to the execution of active set update procedure.

8.3.4.3.4 Method of test

Initial Condition

System Simulator-: 2cells- Both Cell 1 and Cell 2 are active

UE-: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE ~~CELL_DCH in cell 1~~ [Active set is not full.]

Test Procedure

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. SS begin to configure the new radio link in cell 2. Then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC. The message includes IE "Radio Link Addition Information", and IE "Radio Link Removal Information", indicating the removal of cell 1 and addition of cell 2 into the active set. When the UE receives this message, the UE RRC shall terminate the transmission and reception of the removed radio link in cell 1 and then configures layer 1 to begin transmission and reception in cell 2. After the UE received confirmations from the physical layer regarding the update of active set, it transmits an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH to the SS. The UE shall continue to communicate with the SS on the added radio link in cell 2. When SS receives ACTIVE SET UPDATE COMPLETE message, it verifies that the UE has ceased any uplink transmission in cell 1.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state in cell 1
2				The SS configures an additional radio link in cell 2, starting the transmission and reception of data in cell 2. Clause
3	←		ACTIVE SET UPDATE	The SS transmit this message on downlink DCCH using AM RLC which includes IE "-Radio Link Addition Information" for cell 2 and IE "-Radio Link Removal Information" for cell 1.
4	→		ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link in cell 2 and removes the old radio link in cell 1.
5				The SS removes the radio link from cell 1 and the UE shall continue to communicate on the added radio link in cell 2, and not transmit any data in cell 1.

Specific Message Content

ACTIVE SET UPDATE

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 2
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- CHOICE Spreading factor	512
- Code Number	For each DPCH, assign the same code number in the current code given in cell 2.
- Scrambling code change	Not Present
- TPC Combination Index	Not Present
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- Secondary CCPCH Info	Not Present
- TFCS	Not Present
- FACH/PCH Information	Not Present
- Reference to other system information blocks	Not Present
Radio link removal information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code assigned as for cell 1

8.3.4.3.5 Test requirement

After step 3 the UE shall remove the radio link in cell 1 and add the radio link in cell 2. Then the UE shall transmit an ACTIVE SET UPDATE COMPLETE message the uplink DCCH.

After step 4 the UE shall continue to communicate on the added radio link in cell 2. SS monitors the uplink direction to confirm that no data are designated for reception in cell 1.

8.3.4.4 Active set update in soft handover: Unsupported Configuration in the UE

8.3.4.4.1 ~~———————~~Definition

8.3.4.4.2 Conformance requirement

If the UTRAN attempts to remove a radio link ~~-~~that is not currently present in the UE's active set, the UE transmits an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC and maintain its current communication status with the radio links.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.4.3 Test purpose

To confirm that the UE transmits an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC, following the reception of a message specifying the removal of a radio link unknown to the UE.

8.3.4.4.4 Method of test

Initial Condition

System Simulator~~-~~: 2cells - Cell 1 is active, Cell 2 is active.

UE~~-~~: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_DCH in cell 1~~.

Test Procedure

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. SS requests for a radio link addition by executing the steps described in test case 8.3.4.1. The UE shall then include cell 2 into its active set and establish the transmission and reception capabilities related to cell 2. SS then transmits an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes IE_"-Radio Link -Removal Information" This IE indicates that a cell with unknown P-CPICH scrambling code be removed from the active set. When the UE receives this message, it transmits an ACTIVE SET UPDATE FAILURE message which is set to "configuration unacceptable" in IE_"-failure cause" on the uplink DCCH using AM RLC to the SS, and continues to communicate on the existing radio links in cell 1 and cell 2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state in cell 1.
2				SS commands the UE to perform a radio link addition procedure by executing the steps in test case 8.3.4.1. The UE shall respond accordingly. Both cell 1 and cell 2 should be found in the active set maintained by the UE.
3	←		ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes IE_"-Radio Link Removal Information". This content of this IE indicates an unknown cell.
4	→		ACTIVE SET UPDATE FAILURE	The message shall state "configuration unacceptable" in IE_"failure cause". UE shall continue to communicate normally with both cells

Specific Message Contents

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information Radio link removal information - Primary CPICH info - Primary scrambling code	Not Present 1 radio link to be removed Set to an unknown scrambling code not assigned to any cells.

ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark
Integrity check info Failure cause	Not Checked Check to see if it's set to 'configuration unacceptable'

8.3.4.4.5 Test requirement

After step 3 the UE shall transmit an ACTIVE SET UPDATE FAILURE message, setting "configuration unacceptable" in IE "failure cause" and sent on the uplink DCCH using AM RLC.

After step 4 the UE shall continue to communicate on the radio links for both cell 1 and cell 2.

8.3.4.5 Active set update in soft handover: Combined radio link addition and removal (active set is full)

8.3.4.5.1 ~~Definition~~

8.3.4.5.2 Conformance requirement

When the UE active set is full, the UE shall first remove the old radio link and then add the new radio link, after it receives an ACTIVE SET UPDATE message for the combined radio link addition and removal.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.5.3 Test purpose

To confirm that the UE removes one of existing radio links, which is indicated in an ACTIVE SET UPDATE message and continues to communicate on the added radio link.

8.3.4.5.4 Method of test

Initial Condition

System Simulator: 3 cells - Cell 1, Cell 2, and Cell 3 are all active

UE: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 and cell 2 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_DCH in cell 1, cell 2~~ (The assumed maximum number for active set is 2.)

[Editor's Note] The maximum number of radio link (i.e. MaxRL) specified in CR328 of TS 25.331 is 8. However, if the UE capability is more inferior in this aspect, can the assumption above still stands?

Test Procedure

The UE establishes a radio access bearer in the CELL_DCH state in cell 1 and cell 2. The SS configures the new radio link in cell 3 and sends an ACTIVE SET UPDATE message on DCCH using AM. This message includes IE "Radio Link Addition Information" indicating cell 3 to be added into the active set, and IE " Radio Link Removal Information" indicating the removal of cell 1 from the active set. When the UE receives this message, it shall not report a failure but firstly removes the indicated radio link and then adds the new radio link. Then the UE transmits an ACTIVE SET UPDATE COMPLETE message on the DCCH using AM RLC to the SS and continues to communicate with the SS on the added radio link and the remaining old radio link.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state in cell 1 and cell 2.
2				The SS configures an additional radio link in for cell 3, and starts reception and transmission using cell 3.
3	←		ACTIVE SET UPDATE	The SS transmit this ~~massage~~message on downlink DCCH using AM RLC which includes IE "-Radio Link Addition Information" and IE "-Radio Link Removal Information". The contents of the IE dictate the addition of cell 3 into the active set and removal of cell 1 from it.
4	→		ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link in cell 3 and removes the old radio link in cell 1.
5				The SS removes the radio link in cell 1. The UE shall continue to communicate on the added radio link in cell 3 and also the existing radio link in cell 2.

Specific Message Content

ACTIVE SET UPDATE

The message to be used in this test case is identical to the same message sub-type found in ~~TS 34.108 Clause 8clause~~Annex A, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 3
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- CHOICE Spreading factor	512
- Code Number	For each DPCH, assign the same code number in the current code given in cell3.
- Scrambling code change	Not Present
- TPC Combination Index	Not Present
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- Secondary CCPCH Info	Not Present
- TFCS	Not Present
- FACH/PCH Information	Not Present
- Reference to other system information blocks	Not Present
Radio link removal information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code assigned as for cell 1

8.3.4.5.5 Test requirement

After step 3 the UE shall remove the radio link in cell 1 and add the radio link in cell 3. Then the UE shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH.

After step 4 the UE shall continue to communicate on the added radio link in cell 3 and on the existing old radio link in cell 2. It shall cease all transmission to cell 1.

8.3.4.6 Active set update in soft handover: Subsequent reception of ACTIVE SET UPDATE message / Incompatible simultaneous reconfiguration

8.3.4.6.1 Definition

8.3.4.6.2 Conformance Requirements

The UE shall ignore a subsequent ACTIVE SET UPDATE message, while it is still processing an existing active set update procedure. It shall continue to configure itself in accordance to the first ACTIVE SET UPDATE message received. When encountering a “simultaneous reconfiguration” situation, the UE shall transmit a ACTIVE SET FAILURE message on the DCCH using AM RLC with value “incompatible simultaneous reconfiguration” set in IE_”failure cause”. Then the UE shall continue to execute the ordered reconfiguration (for example due to a radio bearer reconfiguration) as if the ACTIVE SET UPDATE message has not been received.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.6.3 Test Purpose

To confirm that the UE continues to execute the prior active set update request, when it receives a subsequent ACTIVE SET UPDATE messages before it has completely executed the first update procedure. To confirm that the UE transmits an ACTIVE SET UPDATE FAILURE message to report the detection of a “incompatible simultaneous reconfiguration” condition, when an ACTIVE SET UPDATE message was received before the UE can complete an on-going radio bearer reconfiguration procedure.

8.3.4.6.4 Method of test

Initial Condition

System Simulator-: 2 cells – both cell 1 and cell 2 are active

UE-: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 and cell 2 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE~~CELL_DCH in cell 1 and cell 2~~

~~8.3.4.6.4 Test Procedure~~

The UE establishes a radio access bearer in CELL_DCH state in cell 1 and cell 2. SS transmits an ACTIVE SET UPDATE message to request for the removal of cell 1 from the active list. When the UE sends an acknowledgement for this message from its RLC entity, SS immediately transmits a second ACTIVE SET UPDATE message, which specifies cell 1 to be added into the active list. SS verifies that the UE ceases transmission on the radio link associated with cell 1 when the activation time indicated in the first ACTIVE SET UPDATE message is reached. Next, SS sends a RADIO BEARER RELEASE message using AM-RLC on the DCCH. In this message, SS requests the release of the radio access bearer. When RLC acknowledgement has been received from the UE, SS immediately sends an ACTIVE SET UPDATE message. In this message, SS commands the UE to add cell 1 into its active list with the activation time set to “now”. The UE shall react by transmitting ACTIVE SET UPDATE FAILURE message on the DCCH using AM-RLC mode. In this message, the IE ”failure cause” shall be set to “incompatible simultaneous reconfiguration”. When the activation time stated in RADIO BEARER RELEASE message has elapsed, the UE shall transmit the RADIO BEARER RELEASE COMPLETE message to inform that the assigned radio access bearer is release. When SS receives this message, it verifies that UE continues to communicate with the SS on the radio link associated with cell 2 only, and that no user data are exchanged on the previously available radio access bearer.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is CELL_DCH state in both cell 1 and cell 2.
2		←	ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC, requesting for cell 1 to be removed from the active set.
3		←	ACTIVE SET UPDATE	Immediately after UE acknowledges the message in step 2, SS transmits this message. This message specifies that cell 1 be added into the active set.
4				SS waits until the activation time stated in step 2 has elapsed, and verifies that the UE stops transmitting on the radio link of cell 1.
5		→	ACTIVE SET UPDATE COMPLETE	UE shall transmit this message to signal the

6	←	RADIO BEARER RELEASE	SS checks that UE stops all uplink activities on the radio link associated with cell 1. SS requests that the radio access bearer allocated to the UE be
8	→	ACTIVE SET UPDATE FAILURE	In IE “failure cause”, the reason “incompatible simultaneous reconfiguration” shall be stated.
9	→	RADIO BEARER RELEASE COMPLETE	The UE shall send this message when the activation time specified in step 6 is reached. Upon reception of this message, SS verifies that there is no more uplink user traffic on the radio access bearer.

Specific Message Contents

ACTIVE SET UPDATE (Step 2)

Use the default message for this type found in Annex A, with the following exceptions:

Information Element	Value/remark
Radio link addition information Radio link removal information - Primary CPICH info - Primary scrambling code	Not Present. Set to the P-CPICH scrambling code assigned to cell 1.

ACTIVE SET UPDATE (Step 3)

Use the default message for this type found in Annex A, with the following exceptions

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 1
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- CHOICE Spreading Factor	512
- Code Number	For each DPCH, assign the same code number in the current code given in cell 1.
- Scrambling code change	Not Present
- TPC Combination Index	Not Present
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- Secondary CCPCH Info	Not Present
- TFCS	Not Present
- FACH/PCH information	Not Present
- Reference to other system information blocks	Not Present
Radio link removal information	Not Present

ACTIVE SET UPDATE COMPLETE (Step 5)

Only the message type for this message is checked.

RADIO BEARER RELEASE (Step 6)

Use the same message sub-type titled “AM or UM (Non-speech in CS)“ found in Annex A.

ACTIVE SET UPDATE (Step 7)

Use the same message as in that for step 3, with the following exception:

Information Element	Value/remark
Activation Time	Not Present – use default

ACTIVE SET UPDATE FAILURE (Step 8)

Information Element	Value/remark
Failure Cause	Check to see if set to “Incompatible simultaneous reconfiguration”

RADIO BEARER RELEASE COMPLETE (Step 9)

Information Element	Value/remark
Integrity check Info	Not checked
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked

8.3.4.6.5 Test Requirement

After step 5 the UE shall ignore the second ACTIVE SET UPDATE message received, terminate the radio link in relation to cell 1, and transmit ACTIVE SET UPDATE COMPLETE using AM-RLC on the uplink DCCH of cell 2.

After step 7 the UE shall report the “incompatible simultaneous reconfiguration” error by transmitting ACTIVE SET UPDATE FAILURE message on the DCCH.

After step 8 the UE shall send RADIO BEARER RELEASE COMPLETE message to cell 2 on the uplink DCCH, using AM-RLC mode. The UE shall stop all transmissions of user traffic on the radio access bearer assigned.

8.3.4.7 Active set update in soft handover: Invalid Message Reception

8.3.4.7.1 ~~———————~~Definition

8.3.4.7.2 Conformance Requirement

The UE shall keep its old configuration when the UE receives an ACTIVE SET UPDATE message, which omits a conditional IE. It shall transmit a ACTIVE SET UPDATE FAILURE message which set value "protocol error" in IE_"~~-~~failure cause" and also value "Conditional information element error" in IE_"~~-~~Protocol error cause".

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.7.3 Test Purpose

To confirm that the UE retains its active set list when it receives an ACTIVE SET UPDATE message, with a conditional IE missing in the message.

8.3.4.7.4 Method of test

Initial Condition

System Simulator~~-~~: 2 cells – both cell 1 and cell 2 are ~~actiive~~active.

UE~~-~~: CS-CELL_DCH_Initial (state 6-1) or PS-CELL_DCH_Initial (state 6-3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE ~~CELL_DCH in cell 1~~ (Integrity protection algorithm is not applied at the start of test)

Test Procedure

The UE establishes a radio access bearer in CELL_DCH in cell 1. SS requests that cell 2 be added into the active set by performing the steps described in test cases 8.3.4.1. The UE shall react accordingly and incorporate cell 2 into its active set. SS transmits an ACTIVE SET UPDATE message~~-~~, with both IE "Integrity check info" and IE_"Integrity protection mode info" present in the message. This message also commands the starting of integrity mode protection. However, the IE_"integrity protection initialisation number" is omitted. The UE shall detect that it has received an invalid message. It shall then send ~~a~~an ACTIVE SET UPDATE FAILURE message, stating the reason "Conditional information element error" in the IE_"Protocol error information". The UE shall not remove cell 1 from its current active set.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is CELL_DCH state in cell 1.
2				SS executes the steps in test case 8.3.4.1. The UE shall add cell 2 into its active set.
3	←		ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes IE "Integrity check info" and IE "Integrity protection mode info". This message indicates that integrity mode protection be started but omit the IE "integrity protection initialisation number". The message also specifies that cell 1 be removed from the active set.
4	→		ACTIVE SET UPDATE FAILURE	The message shall state "conditional information element error" in IE "protocol error information". UE shall

Specific Message Contents

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Integrity Check Info	
- Message authentication code	Set to an arbitrary 32-bits string
- RRC Message sequence number	Set to an arbitrary integer between 0 and 15
Integrity Protection Mode Info	
- Integrity protection mode command	Start
- Downlink integration protection activation info	Not Present
- Integrity protection algorithm	Standard UMTS Integrity Algorithm UIA1
- Integrity protection initialisation number	Not Present
Radio link addition information	Not Present
Radio link removal information	
- Primary CPICH info	
- Primary scrambling code	Set to the P-CPICH scrambling code assigned to cell 1.

ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark
Protocol Error Information	
- Protocol Error Cause	Check to see if it's set to 'Conditional information element error'

8.3.4.7.5 Test Requirement

After step 3 the UE shall report a protocol error by transmitting the ACTIVE SET UPDATE FAILURE message on the DCCH. In this message, the value "Conditional information element error" shall be set in IE "Protocol Error Information". The UE shall continue to communicate normally with the SS using cell 1 and cell 2.

8.3.5 Hard Handover

[-Editor's note-: This test is included in the "Physical channel reconfiguration"-, "Radio bearer establishment"-, "Radio bearer reconfiguration"-, "Radio bearer release" and " Transport channel reconfiguration".-]

8.3.6 Inter system hard handover to UTRAN

[-Editor's note-: This test is FFS until R2000 core specification will be defined.]

8.3.7 Inter system hard handover from UTRAN

[Editor's note-: This test is FFS until R2000 core specification will be defined.]

8.3.8 Inter system cell reselection to UTRAN

[-Editor's note-: This test is FFS until R2000 core specification will be defined.]

8.3.9 Inter system cell reselection from UTRAN

[-Editor's note-: This test is FFS until R2000 core specification will be defined.]

8.4 Measurement procedure

8.4.1 Measurement Control and Report

8.4.1.1 Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_DCH state

8.4.1.1.1 Definition

8.4.1.1.2 Conformance requirement

After a state transition from idle mode to CELL_DCH state, the UE shall continue to monitor the list of neighbouring cells which is specified in the SYSTEM INFORMATION BLOCK TYPE 11 (or 12) messages on BCCH. The UE shall send a MEASUREMENT REPORT message when reporting criteria are satisfied. During CELL_DCH state, if the UE receives a MEASUREMENT CONTROL message, it shall terminate existing monitoring activities for the neighbouring cells previously known from SYSTEM INFORMATION BLOCK TYPE 11 (or 12) messages. It shall perform the measurement and reporting tasks based on the latest MEASUREMENT CONTROL message received.

Reference

3GPP TS 25.331 clause 8.4.1.9

8.4.1.1.3 Test Purpose

To confirm that the UE continue to monitor CPICH RSCP measurement quantity of the neighbour cells after it has entered the CELL_DCH state from idle mode. When the reporting criteria specified ~~in BCCH~~in SYSTEM INFORMATION BLOCK TYPE 11 (or 12) have been met, it shall report the measurements to the SS using MEASUREMENT REPORT messages. To confirm that in CELL_DCH state, the UE respond to a modification of measurement criteria and adjust its measurement and reporting mechanism accordingly. To confirm that the UE terminates monitoring and measurement activities for the neighbour cells found in SYSTEM INFORMATION BLOCK TYPE 11 (or 12) message, after it has received a MEASUREMENT CONTROL message which specifies the measurement type to be “intra-frequency measurement”. To confirm that the UE ~~restart~~ reconfigures the monitoring and reporting activities based on the last MEASUREMENT CONTROL message received.

8.4.1.1.4 Method of test

Initial Condition

System Simulator~~-~~: 2 cells – Cell 1 is active and the downlink P-CPICH has a transmission level (RSCP) of –40 dBm, cell 2 is also active but with a P-CPICH transmission power 10dB below cell 1.

UE~~-~~: ~~idle state after having successfully camped onto cell 1.~~CS-registered idle mode (state 2) or PS-registered idle mode (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE

Test Procedure

The UE is initially at idle mode and has selected cell 1 for camping. The SYSTEM INFORMATION BLOCK TYPE 11 message is modified with respect to the default settings to prevent reporting of CFN-SFN difference and also to include cell 2 into the monitored neighbour cell list. The key measurement parameters are as follow: measurement type = “intra-frequency measurement”, measurement quantity = “CPICH RSCP”, report criteria = “periodic reporting criteria”, reporting interval = “12 seconds”.

SS ~~pages the UE with the cause set to terminating~~prompts the operator to make an outgoing call of a supported traffic class. The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates uplink and downlink DP~~D~~CH physical resources to the UE. UE shall then transmit RRC CONNECTION SETUP COMPLETE message and move~~s~~ to CELL_DCH state. After approximately 12 seconds, the UE shall transmit a MEASUREMENT REPORT message with measurement readings from cell 2. SS waits for 25 seconds after the sending of RRC CONNECTION SETUP message to verify that 2 consecutive MEASUREMENT REPORT messages are received.

~~Then SS modifies the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK TYPE 12 messages. The measurement parameters for cell 2 are changed in the following manner: report criteria = "event-trigger", event identity = "1f", reporting threshold = "-65 dBm". SS then begins to decrease the transmission power of P-CPICH in cell 2 progressively at the rate of 0.5dB/sec. SS checks to see that no MEASUREMENT REPORT messages are sent within the next 12 seconds (which is due to periodic reporting). The UE shall detect this change and discontinue the periodic reporting of RSCP value estimation from cell 2. After approximately 35 seconds later, the UE shall transmit MEASUREMENT REPORT message to indicate that the RSCP of cell 2 has reached the threshold specified. In this message, the correct measurement identity shall be stated. Finally, SS sends a MEASUREMENT CONTROL message to request a periodic reporting of measurement quantity P-CPICH Ec/No from cell 2. The reporting interval is set to 32 seconds. Within the MEASUREMENT CONTROL message, a new measurement identity is assigned. After receiving this message, the UE shall stop reporting quantity P-CPICH RSCP of cell 2. Moreover, the UE shall start to transmit MEASUREMENT REPORT messages with the contents pertaining to new measurement identity on cell 2's P-CPICH Ec/No.~~

SS sends a MEASUREMENT CONTROL message on the downlink DCCH. In this message, SS assigns an intra-frequency measurement type with the measurement quantity based on cell 2's CPICH RSCP value. Parameters used in this message are: measurement identity = "2", report criteria = "event-trigger", event identity = "1f", reporting threshold = "-65 dBm". After receiving this message, the UE shall delete the existing measurement and reporting context. SS checks to see that no MEASUREMENT REPORT messages are sent within the next 12 seconds (which is due to periodic reporting). SS gradually reduces the transmission power of P-CPICH in cell 2 until its RSCP value reaches –70dBm. The UE shall transmit MEASUREMENT REPORT messages when it detects that the CPICH RSCP of cell 2 has reached the threshold value specified.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 11	The UE is idle mode and camped onto cell 1. Cell 2 is also active but the P-CPICH has a RSCP 10dB below that of cell 1. SYSTEM INFORMATION TYPE 12 to be transmitted is different from the default settings (see specific message contents)
2		~~←~~	~~PAGING TYPE 1~~	~~SS sends this message to page for the UE.~~SS prompts the operator to make an outgoing call.
3		→	RRC CONNECTION REQUEST	
4		←	RRC CONNECTION SETUP	SS allocates DPCH physical channels to UE
5		→	RRC CONNECTION COMPLETE	UE transmits this message to acknowledge the SETUP message and moves to CELL_DCH state.

6	→	MEASUREMENT REPORT	SS waits for 25 seconds. It shall receive 2 consecutive MEASUREMENT REPORT messages
~~7~~	~~←~~	~~MASTER INFORMATION BLOCK~~ ~~SYSTEM INFORMATION BLOCK TYPE 12~~	~~SS modifies the contents of system information, so that measurement for cell 2 is changed to "event trigger" with "event identity" set to 1f. SS then reduces the transmission power of cell 2's P-CPICH progressively by 0.5dB/sec.~~
~~8~~			~~SS monitors the DCCH for the next 12 seconds to make sure that no further MEASUREMENT REPORT messages are transmitted.~~
~~9~~	~~→~~	~~MEASUREMENT REPORT~~	~~UE shall transmit this message approximately 35 seconds after step 7, as its internal estimation of the RSCP of cell 2 has dropped below the threshold.~~
~~10~~7	←	MEASUREMENT CONTROL	~~-~~A new measurement identity is assigned, with the reporting quantity changed to cell 2's P-CPICH ~~Ec/No~~RSCP. See specific message content for the rest of the message.
8			SS waits for approximately 15 seconds and verifies that no further MEASUREMENT REPORT messages are detected on the uplink DCCH.
9			SS gradually reduces the transmission power of cell 2 until its CPICH RSCP value drops to –70dBm.
~~11~~10	→	MEASUREMENT REPORT	SS verifies that UE transmits 2 MEASUREMENT REPORT messages at 500 msec interval ~~periodically~~ to report the P-CPICH ~~Ec/No~~RSCP value of cell 2.

Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

SYSTEM INFORMATION BLOCK TYPE 11 (Step 1)

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	1
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin	-115dB
- Qrxlevmin	-20dB
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	No report
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	12 seconds
- Inter-frequency measurement system information	Not present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

RRC CONNECTION REQUEST

Information Element	Value/Remarks
Establishment cause	Check to see if set to ~~terminating~~ originating call of a supported traffic class
Measured results on RACH	Check to see if this IE is absent

RRC CONNECTION SETUP

Use the message sub-type in ~~default message content~~clause 9 of TS 34.108, which is marked as “Transition to CELL_DCH”.

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 1
Measurement Results	
- CHOICE measurement	Check to see if set to “Intra-frequency measured results list”
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell 2
- CFN-SFN observed time difference	Check to see if this IE is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it’s the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check value to see if within acceptable range
- Pathloss	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

~~MASTER INFORMATION BLOCK (Step 7)~~

~~Information Element~~	~~Value/Remarks~~
~~MIB Tag~~	~~2~~

~~SYSTEM INFORMATION BLOCK TYPE 12 (Step 7)~~

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	2
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	No report
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	No report
- SFN-SFN observed time difference	FALSE
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameter required for each event	
- Intra-frequency event identity	Event type 1f
- Triggering condition	Monitored set cells
- Reporting range	Not present
- Cells forbidden to affect reporting	Not present
- W	Not present
- Hysteresis	Not Present
- Threshold Used Frequency	-65dBm
- Reporting deactivation threshold	Not present
- Replacement activation threshold	Not present
- Time to trigger	0
- Amount of reporting	Infinity
- Reporting Interval	8 seconds
- Reporting Cell Status	Not Present
- Inter-frequency measurement system information	Not present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

MEASUREMENT REPORT (Step 9)

~~Information Element~~	~~Value/Remarks~~
~~Measurement identity number~~	~~Check to see if set to 2~~
~~Measurement Results~~	
~~- CHOICE measurement~~	~~Check to see if set to "Intra-frequency measured results list"~~
~~- Intra-frequency measured results~~	
~~- Cell measured results~~	
~~- Cell Identity~~	~~Check to see if set to the id of cell 2~~
~~- CFN-SFN observed time difference~~	~~Check to see if this IE is absent~~
~~- SFN-SFN observed time difference~~	~~Check to see if this IE is absent~~
~~- Primary CPICH Info~~	
~~- Primary Scrambling Code~~	~~Check to see if it's the same code for cell 2~~
~~- CPICH Ec/No~~	~~Check to see if this IE is absent~~
~~- CPICH RSCP~~	~~Check value to see if this is below threshold value specified~~
~~- Pathloss~~	~~Check to see if this IE is absent~~
~~Event Results~~	
~~- Intra-frequency event identity~~	~~Check to see if this is set to event '1f'~~
~~- Cell measured event results~~	
~~- Primary CPICH Info~~	
~~- Primary scrambling code~~	~~Check to see if it's set to cell 2's assigned scrambling code~~

MEASUREMENT CONTROL

Information Element	Value/Remark
Measurement Identity Number	~~3~~2
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	Same as in default message content
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	~~TRUE~~FALSE
- CPICH RSCP	~~FALSE~~TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- Measurement validity	Not present
- CHOICE report criteria	~~Periodical reporting criteria~~Intra-frequency measurement reporting criteria
~~- Amount of reporting~~	~~Infinity~~
~~- Reporting interval~~	~~32 seconds~~
- Parameters required for each events	
- Intra-frequency event identity	1f
- Triggering conditions	Monitored set cells
- Reporting range	Not Present
- Cells forbidden to affect reporting range	Not Present
- W	Not Present
- Hysteresis	1 dB
- Threshold used frequency	-65 dBm
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Time to trigger	0 msec
- Amount of reporting	2
- Reporting interval	500 msec
- Reporting cell status	Not Present
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 1~~0~~1)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to ~~3~~2
Measurement Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell 2
- CFN-SFN observed time difference	Check to see if this IE is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is ~~present~~absent
- CPICH RSCP	Check to see if this IE is ~~absent~~present
- Pathloss	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

8.4.1.1.5 Test Requirement

After step 5 the UE shall start to transmit MEASUREMENT REPORT message. The measurement quantity "CPICH RSCP" shall be reported to the SS at 12 seconds interval.

After step 7 UE shall not transmit any MEASUREMENT REPORT messages within ~~12~~ 15 seconds after SS has ~~modified the MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK TYPE 12~~ transmitted the MEASUREMENT CONTROL message~~s~~.

After step 9 ~~The~~ the UE shall transmit ~~a~~ 2 MEASUREMENT REPORT message~~s~~ ~~roughly 35 seconds after step 7~~on the uplink DCCH, to report that the RSCP value for cell 2 has dropped below the specified threshold.

~~After step 10 the UE shall transmit MEASUREMENT REPORT messages at 32 seconds interval, with the IE"Measurement Identity" set to 3. The message shall also include an estimation of cell 2's P-CPICH Ec/No value.~~

8.4.1.2 Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_DCH state

8.4.1.2.1 ~~————————~~Definition

8.4.1.2.2 Conformance requirement

After entering CELL_DCH state from idle mode, the UE shall discontinue the monitoring of the list of neighbouring cells assigned in the SYSTEM INFORMATION BLOCK TYPE 11 messages on BCCH.

Reference

3GPP TS 25.331 clause 8.4.1.9

8.4.1.2.3 Test Purpose

To confirm that the UE terminates the monitoring activities of the list of neighbouring cell assigned in the IE "inter-frequency cell info" in SYSTEM INFORMATION BLOCK TYPE 11 messages, after it enters CELL_DCH state from idle mode.

8.4.1.2.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and has a transmission level (CPICH RSCP) of –50 dBm for P-CPICH, cell ~~2~~ 4 is also active but with a transmission power 20dB below cell 1. ~~The carrier frequency of cell 1 in the uplink direction is 1 UARFCN above that of cell 2, and in the downlink direction cell 1 carrier is 1 UARFCN above that of cell 2.~~

UE-: ~~idle state and after it has camped onto cell 1.~~CS-registered idle mode (state 2) or PS-registered idle mode (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

The UE is initially at idle mode and has selected cell 1 for camping. The SYSTEM BLOCK INFORMATION TYPE ~~12~~ 11 message is modified with respect to the default settings to prevent reporting of CFN-SFN difference, and also to include cell ~~2~~ 4 into the monitored neighbour cells list. The key measurement parameters are as follow: measurement type = "inter-frequency measurement", measurement quantity = "CPICH RSCP".

SS ~~pages the UE , stating the paging cause as terminating call for~~prompts the operator to make an outgoing call for one of the traffic classes supported by the UE. The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates uplink and downlink dedicated physical resources to the UE. UE sends RRC CONNECTION SETUP COMPLETE on the uplink DCCH and then moves to CELL_DCH. The UE shall not transmit any MEASUREMENT REPORT messages, which pertain to measurement readings from cells belonging to the monitored set.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 11	The UE is idle mode and camped onto cell 1. Cell 2 is also active but has transmission power 20dB below that of cell 1. SYSTEM INFORMATION BLOCK TYPE 11 to be transmitted is different from the default settings (see specific message contents)
2		~~←~~	~~PAGING TYPE 1~~	~~SS sends this message to page for the UE.~~SS prompts the operator to make an outgoing call.
3		→	RRC CONNECTION REQUEST	
4			RRC CONNECTION SETUP	SS allocates dedicated physical channels to UE, specifying the use~~ing~~ of compressed mode format
5		→	RRC CONNECTION SETUP COMPLETE	UE transmits this message to acknowledge the RRC CONNECTION SETUP
6				SS raises the ~~transmission power~~CPICH RSCP of cell 2 by 10dB. SS checks to see that no MEASUREMENT REPORT messages are sent from UE to cell 1.

Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

~~SYSTEM INFORMATION BLOCK TYPE 11~~x

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency measurement identity number	1
- Inter-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell ~~2~~4
- Frequency info	
- UARFCN uplink (Nu)	Set to the ~~next~~ uplink UARFCN ~~after~~ of cell ~~1~~4
- UARFCN downlink (Nd)	Set to the ~~previous~~ downlink UARFCN ~~before~~ of cell ~~1~~4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell ~~2~~4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and re-selection info for SIB 11/12	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20 dB, -115dBm
- Inter-frequency measurement quantity	
CHOICE Reporting criteria	Inter-frequency reporting criteria
- Filter coefficient	0
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency measurement reporting criteria	
- Parameters required for each event	2c
- Inter-frequency event identity	Not Present
- Threshold used frequency	Not Present
- W used frequency	2.0dB
- Hysteresis	0 sec
- Time to trigger	Infinity
- Amount of reporting	0
- Reporting interval	Not Present
- Parameters required for each non used frequency	
- Threshold non-used frequency	-65dBm
- W non-used frequency	0
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	

RRC CONNECTION REQUEST

Information Element	Value/Remarks
Establishment cause	Check to see if set to ~~Terminating~~ originating call of a supported traffic class
Measured results on RACH	Check to see if this IE is absent

RRC CONNECTION SETUP

Use the message sub-type found in -TS 34.108 clause 9 which is marked as “Transition to CELL_DCH”, with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- Spreading factor	Refer to the parameter set in TS 34.108
- Fixed or flexible position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits (SF=128, 256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ~~TIP~~ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIR2After2	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	

8.4.1.2.5 Test Requirement

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages pertaining to the measurement of CPICH ~~Ec/No~~RSCP quantity of cell ~~2~~4.

8.4.1.3 Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_FACH state

8.4.1.3.1 Definition

8.4.1.3.2 Conformance requirement

During a transition from idle mode to CELL_FACH state, the UE shall start to monitor neighbouring cells listed in the IE ”Intra-frequency cell info” received in SYSTEM INFORMATION BLOCK TYPE 11 or TYPE 12. If a measurement report criteria is also specified, the UE shall store this information and apply these rules when deciding to transmit MEASUREMENT REPORT messages ~~during~~ after a subsequent transition to CELL_DCH state. If reporting during RACH transmissions is dictated by the UTRAN, the UE shall append the relevant measurement information when sending messages on RACH (e.g. RRC CONNECTION REQUEST and CELL UPDATE).

Reference

3GPP TS 25.331, clause 8.4.1.~~9~~10

8.4.1.3.3 Test Purpose

To confirm that the UE begins to monitor the neighbouring cells in the monitored list after it has entered the CELL_FACH state. The list of neighbouring cell can be known from SYSTEM INFORMATION BLOCK TYPE 11 or TYPE 12 messages. If information regarding the intra-frequency measurement reporting criteria is also broadcasted, the UE shall save this information and apply the criteria ~~during~~ after a subsequent transition to CELL_DCH state. If RACH measurement reporting is dictated in SYSTEM INFORMATION BLOCK TYPE 11 or TYPE 12 messages, the UE shall include these measurements when transmitting on the RACH channel.

8.4.1.3.4 Method of test

Initial Condition

System Simulator~~-~~: 2 cells – both cell 1 and cell 2 are active. Cell 2 is transmitting at 15 dB below cell 1.

UE~~-~~: ~~idle state and camped onto cell 1.~~CS-registered idle mode (state 2) or PS-registered idle mode (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

The UE is initially at idle mode and has selected cell 1 for camping. The SYSTEM BLOCK TYPE ~~12~~ 11 message is modified with respect to the default settings to prevent reporting of CFN-SFN difference and also to include cell 2 into the monitored neighbour cell list. The key measurement parameters are as follow: measurement type = “intra-frequency measurement”, measurement quantity = “CPICH Ec/No”, report criteria = “periodic reporting criteria”, reporting interval = “12 seconds”. In the system information message, reporting of CPICH Ec/No is also required for intra-frequency reporting when transmitting RACH messages to cell 1.

SS ~~pages the UE with the cause specified as terminating~~prompts the operator to make an outgoing call of one of the traffic classes supported by the UE. The UE shall transmit a RRC CONNECTION REQUEST message on the uplink CCCH, SS replies with RRC CONNECTION SETUP message and allocates PRACH and S-CCPCH ~~(FACH)~~ physical channels for uplink and downlink use. UE shall then enter CELL_FACH state. SS waits until timer T305 expires, the UE shall send a CELL UPDATE message including the measurement reading of cell 2’s CPICH Ec/No values. SS then reply with CELL UPDATE CONFIRM message without changing the physical channel resources.

In the next sequence, SS transmits PHYSICAL CHANNEL RECONFIGURATION message, and allocates DP~~D~~CH channels to the UE. The UE shall transit to CELL_DCH state and send a MEASUREMENT REPORT message, correctly stating the measurement identity. The measurement identity indicated shall match the value that was previously broadcasted on SYSTEM INFORMATION BLOCK TYPE 11 when the UE was still in idle mode.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 2, SYSTEM INFORMATION BLOCK TYPE 11	The UE is idle mode and camped onto cell 1. Cell 2 is also active but has transmission power 15dB below that of cell 1. SYSTEM INFORMATION TYPE 2 and 11 to be transmitted are different from the default settings (see specific message contents)
2		~~←~~	~~PAGING TYPE 1~~	~~SS sends this message to page for the UE.~~SS prompts the test operator to make an outgoing call.
3		→	RRC CONNECTION REQUEST	The Ec/No value of P-CPICH
4		←	RRC CONNECTION SETUP	SS allocates common physical channels to UE.
5		→	RRC CONNECTION COMPLETE	UE shall enter CELL_FACH state, and transmit this message to acknowledge the RRC CONNECTION SETUP message.
6				SS monitors the uplink DCCH to confirm that no MEASURENENT REPORT messages are detected. SS waits for 5 minutes (for the expiry of T305 timer), so that UE will initiate a periodic cell updating procedure.
7		→	CELL UPDATE	This message shall contain measurement readings of CPICH Ec/No for cell 1.
8		←	CELL UPDATE CONFIRM	SS does not change the
9		←	PHYSICAL CHANNEL RECONFIGURATION	SS assigns DPCH physical resources to the UE, but keeps the parameters for transport channels and RBs unchanged.
10		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall transit to CELL_DCH state after sending this
11		→	MEASUREMENT REPORT	UE shall begin to report cell 2's CPICH Ec/No value periodically at 12 seconds interval. The measurement identity shall match that broadcasted in step 1

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 2

Information Element	Value/Remarks
UE Timers and constants in connected mode - T305	 5 minutes.

SYSTEM INFORMATION BLOCK TYPE 11

Information Element	Value/Remark
Reference to other system information blocks	
FACH measurement occasion info	
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	5
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Intra-frequency Measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH Ec/No
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH Ec/No
- Maximum number of reported cells on RACH	Current cell
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	No report
- SFN-SFN observed time difference	FALSE
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected set cells	Not present
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	12 seconds
- Reporting Cell Status	Not Present
- Inter-frequency measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

~~PAGING TYPE 1~~

~~Information Element~~	~~Value/Remarks~~
~~Paging record list~~	
~~- Paging Record~~	
~~- CHOICE Paging originator~~	~~CN Originator~~
	~~Terminating Call for one of the supported~~
~~- Paging cause~~	~~traffic classes~~
~~- CN domain identity~~	~~PS Domain~~
~~- CHOICE UE identity~~	~~IMSI (DS-41) or IMSI (GSM-MAP)~~
~~- IMSI (DS-41) or IMSI (GSM-MAP)~~	~~Set to the same IMSI (DS-41) or IMSI (GSM-MAP) digits found in the test USIM.~~

RRC CONNECTION REQUEST

Information Element	Value/Remarks
Initial UE Identity	Check to see if it is the same as ~~in PAGING TYPE 1 message~~the IMSI in USIM card, TMSI or P-TMSI previously allocated.
Establishment cause	Check to see if set to ~~terminating~~ originating call of the compatible traffic classes supported by the UE
Measured results on RACH	
- Measured result for current cell	
- CHOICE measurement quantity	
- CPICH Ec/No	
- Measured results for monitored cells	Check to see if value is present Check to see if this IE is absent

RRC CONNECTION SETUP

Use the same message sub-type found in ~~Clause 9 of TS34.108~~Annex A, which is entitled “Transition to CELL_FACH”.

CELL UPDATE

Information Element	Value/Remarks
U-RNTI	Check to see if set to same U-RNTI value assigned in RRC CONNECTION SETUP message.
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to ‘FALSE’
AM_RLC error indicator (for U-plane)	Check to see if set to ‘FALSE’
Hyper frame number	Check to see if it is present
Cell update cause	Check to see if set to ‘Periodic cell updating’
Protocol error indicator	Check to see if set to ‘FALSE’
Measured results on RACH	
- Measurement result for current cell	
- CHOICE measurement quantity	CPICH Ec/No
- CPICH Ec/No	Checked to see if set to within an acceptable range.
- Measurement results for monitored cells	Checked to see if this IE is not present.
Protocol error information	Check to see if set to ‘FALSE’

PHYSICAL CHANNEL RECONFIGURATION

Use the same message sub-type found in ~~Clause 9 of TS34.108~~Annex A, which is entitled “Packet to CELL_DCH from CELL_FACH”.

MEASUREMENT REPORT

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 5
Measurement Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell 2
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is within acceptable range
- CPICH RSCP	Check to see if this IE is absent
- Pathloss	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

8.4.1.3.5 Test Requirement

After step 3 the UE shall send RRC CONNECTION REQUEST message in response to the paging message sent by the SS, which includes reading of the ~~current~~ cell 1's CPICH Ec/No value.

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages on the uplink DCCH.

After step 6 the UE shall initiate cell update procedure by transmitting CELL UPDATE message. In this message, the cause shall be set to "periodic cell updating". It shall include measurement readings for ~~the current cell (~~cell 1's~~)~~ CPICH Ec/No measurement quantity.

After step 10 the UE shall move to CELL_DCH state and transmit MEASUREMENT REPORT messages at 12 seconds interval. In these messages, neighbouring cell 2's CPICH Ec/No value shall be reported. The IE "measurement identity" in this message shall match the IE "Intra-frequency measurement identity" found in SYSTEM INFORMATION BLCOK TYPE 11 messages transmitted in step 1.

8.4.1.4 Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_FACH state

8.4.1.4.1 ~~Definition~~

8.4.1.4.2 Conformance requirement

After entering CELL_FACH state from idle mode, the UE shall start to monitor the list of "inter-frequency" neighbouring cells assigned in the SYSTEM INFORMATION BLOCK TYPE 11 or 12 messages on BCCH/FACH.

Reference

3GPP TS 25.331, clause 8.4.1.10

8.4.1.4.3 Test Purpose

To confirm that the UE begins to monitor the list of neighbouring cell assigned in the IE "inter-frequency cell info" in SYSTEM INFORMATION BLOCK TYPE 11 or 12 messages, after it enters CELL_FACH state from idle mode. However, it shall not transmit any MEASUREMENT REPORT messages to report measured results for inter-frequency cells.

8.4.1.4.3 Method of test

Initial Condition

System Simulator~~-~~: 2 cells – Cell 1 is active and has a downlink transmission level for CPICH RSCP at -40 dBm, cell ~~2~~ 4 is also active but with a transmission power 10dB below cell 1. ~~The carrier frequency of cell 2~~

~~in the uplink direction is 1 UARFCN above that of cell 2, and the downlink carrier is 1 UARFCN below that of cell 1.~~

UE-: ~~idle state and has successfully camped onto cell 1.~~CS-registered idle mode (state 2) or PS-registered idle mode (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

The UE is initially at idle mode and has selected cell 1 for camping. The SYSTEM BLOCK TYPE 12 message is modified with respect to the default settings to prevent reporting of CFN-SFN difference and also to include cell ~~2~~ 4 into the monitored neighbour cell list for inter-frequency measurement type. The key measurement parameters are as follow: measurement type = "inter-frequency measurement", measurement quantity = "CPICH Ec/No".

SS ~~pages the UE with the cause set to terminating~~prompts the operator to make an outgoing call of a supported traffic class. The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates PRACH channel in the uplink and S-CCPCH~~(FACH)~~ channel on the downlink to the UE. UE then moves to CELL_FACH. The UE shall not transmit any MEASUREMENT REPORT messages, which pertain to measurement readings from inter-frequency cells belonging to the monitored set. SS decreases the transmission power of CPICH in cell 1 by 10dB. At the same time, it raises the corresponding downlink transmission power of cell ~~2~~ 4 by 10dB. This is expected to trigger a cell reselection in the UE. The UE shall send CELL UPDATE message to report this event. Upon receiving this message, SS replies with the default CELL UPDATE CONFIRM message.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 11	The UE is idle mode and camped onto cell 1. Cell ~~2~~4 is also active but has transmission power 10dB below that of cell 1. SYSTEM INFORMATION TYPE 11 to be transmitted is different from the default settings (see specific message contents)
2		~~←~~	~~PAGING TYPE 1~~	~~SS sends this message to page for the UE.~~SS prompts the test operator to make an outgoing call.
3		→	RRC CONNECTION REQUEST	
4		←	RRC CONNECTION SETUP	SS allocates PRACH and S-CCPCH resources to UE
5		→	RRC CONNECTION COMPLETE	UE transmits this message to acknowledge the SETUP message and moves to CELL_FACH state.
6				SS checks to see that no MEASUREMENT REPORT messages are sent from UE to cell 1.
7				SS decreases the transmission power of cell 1 by 10dB and increases cell ~~2~~4's downlink power by 10dB.

8	→	CELL UPDATE	UE shall detect that cell ~~2~~4 has become stronger than cell 1. It sends this message after reselecting to cell ~~2~~4
9	←	CELL UPDATE CONFIRM	Use default message.

Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

SYSTEM INFORMATION BLOCK TYPE 11

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	
- k_UTRA	2
- Other RAT present in inter-system cell info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present ~~Not Present~~
- Inter-frequency measurement system information	
- Inter-frequency measurement identity number	1
- Inter-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell ~~2~~4
- Frequency info	
- UARFCN uplink (Nu)	Set to ~~the next~~ uplink UARFCN ~~after~~ of cell ~~1~~4
- UARFCN downlink (Nd)	Set to the ~~previous~~ downlink UARFCN ~~before~~ of cell ~~1~~4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell ~~2~~4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and re-selection info for SIB 11/12	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Inter-frequency measurement quantity	
CHOICE Reporting criteria	Inter-frequency reporting criteria
- Filter coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency measurement reporting criteria	
- Parameters required for each event	2c
- Inter-frequency event identity	Not Present
- Threshold used frequency	
- W used frequency	2.0dB
- Hysteresis	0 sec
- Time to trigger	Infinity
- Amount of reporting	0
- Reporting interval	~~Not Present~~
- Parameters required for each non used frequency	
- Threshold non-used frequency	-55dBm
- W non-used frequency	0
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	

~~PAGING TYPE 1~~

~~For this message, use the same message contents as in step 2 of clause 8. 4.1.3.3.~~

RRC CONNECTION REQUEST

Information Element	Value/Remarks
Establishment cause	Check to see if set to ~~terminating~~ originating call of the compatible traffic class supported by the UE
Measured results on RACH	Check to see if this IE is absent

RRC CONNECTION SETUP

Use the message sub-type in default message content defined in ~~TS 34.108 Clause 8~~Annex A, which is marked as “Transition to CELL_FACH”.

CELL UPDATE

Information Element	Value/Remarks
U-RNTI	Check to see if same to value as in ~~PAGING TYPE 1~~RRC CONNECTION SETUP message
Integrity check info	Check to see if it is absent
AM_RLC error indication (for C-plane)	Check to see if it is set to FALSE
AM_RLC error indication (for U-plane)	Check to see if it is set to FALSE
Hyper frame number	Check to see if it is present
Cell update cause	Check to see if it is set to “Cell Reselection”
Protocol error info	Check to see if it is absent or set to FALSE
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM

Use the message sub-type in default message content defined in ~~TS 34.108 Clause 8~~Annex A.

8.4.1.4.5 Test Requirement

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages pertaining to the measurement of CPICH Ec/No quantity for cell ~~2~~4.

After step 7 the UE shall reselect to cell ~~2~~4 and transmit a CELL UPDATE message on the uplink CCCH of cell 2.

8.4.1.5 Measurement Control and Report: Intra-frequency measurement for transition from CELL_DCH to CELL_FACH state

8.4.1.5.1 ~~————————~~Definition

8.4.1.5.2 Conformance requirement

After entering CELL_FACH state from CELL_DCH state, the UE shall terminate intra-frequency type measurement reporting originating from a previous MEASUREMENT CONTROL message. ~~If indicated in the system information messages~~After transition to CELL_FACH state, the UE shall start to monitor neighbouring cells listed in the “intra-frequency cell info” received in SYSTEM INFORMATION TYPE 11 or 12. The UE shall apply the reporting criteria specified in system information messages, ~~during~~ after a subsequent return to CELL_DCH state. If requested to perform measurement reporting on RACH channels, the UE shall append the measured results when transmitting uplink RACH messages.

Reference

3GPP TS 25.331, clause 8.4.1.7

8.4.1.5.3 Test Purpose

To confirm that the UE ceases to perform intra-frequency measurement specified in a previously received MEASUREMENT CONTROL message, when it moves from CELL_DCH state to CELL_FACH state. To confirm that the UE read the system information when in CELL_FACH state and starts to monitor the neighbouring cells as indicated in system information messages. To confirm that the UE performs measurements on uplink RACH channel and append the measured results in RACH messages, when requested in the system information messages.

8.4.1.5.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 and cell 2 are active, but the transmitter of cell 3 is switched off. Cell 1 is transmitting its CPICH (RSCP) at 20 dB above cell 2. ~~The downlink UTRA carriers transmission strength for cell 1 is identical to that of cell 2.~~

UE: ~~idle state and camped onto cell 1.~~CS-registered idle mode (state 2) or PS-registered idle mode (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

The UE is initially in idle mode and has selected cell 1 as the current cell. SYSTEM INFORMATION BLOCK TYPE ~~12~~ 11 message is modified from its default message contents, in order to prevent the reporting of CFN-SFN difference. No measurement requirements are specified for the UE in system information block (type 11 and 12) messages.

SS then prompts the test operator to initiate an outgoing call of a supported traffic class. When UE transmits a RRC CONNECTION REQUEST message on RACH, SS replies with RRC CONNECTION SETUP message. Uplink and downlink DP~~D~~CH physical channels are allocated. Upon receiving RRC CONNECTION SETUP message, the UE shall transmit RRC CONNECTION SETUP COMPLETE message on DCCH and then moves to CELL_DCH state. SS then sends a MEASUREMENT CONTROL message to UE. In this message, the SS requests the establishment of ~~a~~an intra-frequency measurement, based on an estimation of cell 2's CPICH Ec/No. At the same time, reporting of cell 2's CPICH is commanded with the reporting criteria set to "periodic reporting" and reporting interval set to 16 seconds. The UE shall start transmitting MEASUREMENT REPORT messages at 16 seconds interval corresponding to the requested reporting event.

SS transmits PHYSICAL CHANNEL RECONFIGURATION message, triggering a switch of transport channels from DCH/DCH to RACH/FACH. After receiving this message, the UE shall reconfigure itself and replies with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on RACH. SS acknowledges this message and the UE shall move to CELL_FACH state and read the system information messages. SS monitors the uplink to verify that no MEASUREMENT REPORT messages are received. In SYSTEM INFORMATION BLOCK TYPE 12 message, SS includes cell 3 into the neighbour cells monitoring list. IE "Intra-frequency reporting quantity for RACH Reporting" and IE "Maximum number of Reported cells on RACH" are also specified in this message. An event-triggered (event type 1a) reporting criterion is specified for intra-frequency measurements. Cell 3 is turned on and its ~~The~~ transmission strength ~~of CPICH for cell 3 is increased until it~~ is set to exceed~~s~~ the lower bound of the reporting range specified. SS then pages for the UE using PAGING TYPE 1 message. The UE shall respond with a CELL UPDATE message, which comprises CPICH Ec/No measurements for cell 1 and 3. Upon the receipt of CELL UPDATE message, SS replies with CELL UPDATE CONFIRM message. This message does not change the physical resource nor allocate any new RNTI identities. The UE shall remain in CELL_FACH state. SS transmits PHYSICAL CHANNEL RECONFIGURATION message again, this time specifying dedicated physical resources for both uplink and downlink direction. The UE shall then send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and return to CELL_DCH state. SS listens to the uplink DCCH for MEASUREMENT REPORT messages. SS verifies that all messages received pertain to the periodic measured value of cell 2's CPICH Ec/No value. UE shall not send any reports containing the measured values of cell 3.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 11	UE is initially in idle mode and test operator is asked to make an outgoing call.
2		→	RRC CONNECTION REQUEST	
3		←	RRC CONNECTION SETUP	Uplink and downlink DPCH resources are allocated.
4		→	RRC CONNECTION SETUP COMPLETE	UE shall move to CELL_DCH state.
5		←	MEASUREMENT CONTROL	SS requests for measurement and reporting of cell 2's CPICH Ec/No value.
6		→	MEASUREMENT REPORT	UE shall send periodic report at 16 seconds interval. SS waits for 2 consecutive reports before proceeding to step 7.
7		←	PHYSICAL CHANNEL RECONFIGURATION	SS switches the physical resources to common physical channels.
8		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall reconfigure its uplink and downlink channels before transiting to CELL_FACH state.
9		←	SYSTEM INFORMATION BLOCK TYPE 12	SS includes cell 3 into the monitored neighbour cell list. SS waits for 1 minutes and verifies that no MEASURE-MENT REPORT messages are received. Cell 3 is switched on, and SS adjusts the transmission power for CPICH such that its Ec/No falls into the report range specified.
10		←	PAGING TYPE 1	SS pages for UE using the assigned U-RNTI identity.
11		→	CELL UPDATE	UE shall transmit this message with measured results on RACH channels for cell 1 and 3 appended.
12		←	CELL UPDATE CONFIRM	No change in physical resource allocation and RNTI identities.
13		←	PHYSICAL CHANNEL RECONFIGURATION	Allocates dedicated physical channels.
14		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall transit to CELL_DCH state.
15		←	MEASUREMENT REPORT	UE shall continue to report cell 2's CPICH Ec/No value on a periodic basis.

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE ~~12~~11 (Step 1)

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

RRC CONNECTION SETUP

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, which is entitled "Transition to CELL_DCH".

MEASUREMENT CONTROL

Information Element	Value/Remark
Measurement Identity Number	5
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH Ec/No
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- Measurement validity	Not present
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 5
Measurement Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell 2
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is present
- CPICH RSCP	Check to see if this IE is absent
- Pathloss	Check to see if this IE is absent
Event results	Check to see if this IE is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 7)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, which is entitled "(Packet to CELL_FACH from CELL_DCH in PS-)"

SYSTEM INFORMATION BLOCK TYPE 12

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	6
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH Ec/No
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH Ec/No
- Maximum number of reported cells on RACH	Current cell + best neighbour
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameter required for each event	Only 1 reporting event is defined
- Intra-frequency event identity	1a
- Triggering condition	Monitored set cells
- Reporting range	10.0 dB
- Cells forbidden to affect reporting	Not present
- W	0.0
- Hysteresis	1.0 dB
- Threshold used frequency	Not Present
- Reporting deactivation threshold	7
- Replacement activation threshold	Not Present
- Time to trigger	0
- Amount of reporting	Infinity
- Reporting Interval	8 seconds
- Inter-frequency measurement system information	Not present
- Inter-system measurement system information	Not present
- Traffic volume measurement system information	Not present
- UE internal measurement system information	Not present

PAGING TYPE 1

Information Element	Value/Remarks
Page Record List - Page Record - CHOICE Paging originator - U-RNTI BCCH modification info	 UTRAN Originator Set to same U-RNTI value as assigned in the RRC CONNECTION SETUP message Not Present

CELL UPDATE

Information Element	Value/Remarks
U-RNTI Integrity check info AM_RLC error indication (for C-plane) AM_RLC error indication (for U-plane) Hyper frame number Cell update cause Protocol error info Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH Ec/No - Measurement results for monitored cells - SFN-SFN observed time difference - Primary CPICH info - Primary scrambling code - CHOICE measurement quantity - CPICH Ec/No Protocol error information	Check to see if same to value as in PAGING TYPE 1 message Check to see if it is absent Check to see if it is set to FALSE Check to see if it is set to FALSE Check to see if it is present Check to see if it is set to “Paging Response” Check to see if it is absent or set to FALSE Check to see if set to CPICH Ec/No Check to see if it is within acceptable range Not Checked Check to see if the same as cell 3’s code. Check to see if set to CPICH Ec/No Check to see if it is within acceptable range Check to see if it is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 13)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, which is entitled “~~(~~Packet to CELL_DCH from CELL_FACH in PS~~-~~)”

MEASUREMENT REPORT (Step 15)

The contents of this message should be the same as in step 6.

8.4.1.5.5 Test Requirement

After step 5, the UE shall start to transmit MEASUREMENT REPORT messages at 16 seconds interval. The message shall contain the measured result of cell 2’s CPICH Ec/No value.

After step 8, the UE shall not send any MEASUREMENT REPORT messages which report quantities requested in MEASUREMENT CONTROL messages in step 5.

After step 10, the UE shall respond to the paging and transmit a CELL UPDATE message. In this message, the measured values CPICH Ec/No for cell 1 and cell 3 shall be included.

After step 14, the UE shall revert to the original measurement reporting mechanism and send MEASUREMENT REPORT messages containing estimates for cell 2’s CPICH Ec/No value. The UE shall not transmit any MEASUREMENT REPORT messages, which indicate measurement quantities of cell 3.

8.4.1.6 Measurement Control and Report: Inter-frequency measurement for transition from CELL_DCH to CELL_FACH state

8.4.1.6.1 ~~———————~~Definition

8.4.1.6.2 Conformance requirement

When transiting from CELL_DCH state to CELL_FACH state, the UE shall terminate all reporting activities related to inter-frequency measurements. After reaching CELL_FACH state, the UE shall begin to monitor neighbouring cells listed in the IE "inter-frequency cell info" of the system information type 12 message.

Reference

3GPP TS 25.331, clause 8.4.1.7

8.4.1.6.3 Test Purpose

To verify that UE ceases to transmit MEASUREMENT REPORT messages when moving from CELL_DCH state to CELL_FACH, even if it has detected that reporting criteria have been satisfied in CELL_FACH state. To verify that the UE extracts information for inter-frequency measurement from system information messages after reaching CELL_FACH state.

8.4.1.6.4 Method of test

Initial Condition

SS: 2 cells – Both cell 1 and cell ~~2~~ 4 are active. ~~Cell 2 is allocated a frequency which is 1 UARFCN away from cell 1 in both uplink and downlink directions.~~ The applicable radio conditions for cell 1 and cell ~~2~~ 4 are as follow:

	Cell 1	Cell ~~2~~4
UARFCN (N_u and N_d)	Channel 1	Channel 2
CPICH RSCP	-75 dBm	-85 dBm
$Q_{rxlevmin}$	-90 dBm	-90 dBm
S	15	5

UE: ~~idle state and camped onto cell 1.~~CS-registered idle mode (state 2) or PS-registered idle mode (state 3) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

The UE is initially in idle mode. SS ~~pages the UE with the cause set to terminating~~prompts the test operator to initial an outgoing call for one of the supported traffic classes. The SYSTEM INFORMATION TYPE ~~12~~ 11 message is modified so that no measurement tasks are to be performed by the UE. The UE shall respond to the paging by sending a RRC CONNECTION REQUEST message on the uplink CCCH carried by RACH. Upon receiving this message, SS allocates dedicated DPCH physical channels to the UE by transmitting RRC CONNECTION SETUP message. The UE shall reply by transmitting a RRC CONNECTION SETUP COMPLETE message. SS then checks the IE "Measurement Capability" of this message and verifies that the UE is capable of performing inter-frequency measurements under FDD mode. After the confirmation of the UE inter-frequency measurement ability, SS transmits PHYSICAL CHANNEL RECONFIGURATION message. In this message, information related to the radio bearers and uplink/downlink radio resources remain unchanged as compared to the equivalent IEs found in RRC CONNECTION SETUP message. The only difference concerns IE "DPCH compressed mode info", which indicates that the UE shall apply the given parameters for compressed mode operations. The UE shall return PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge that compressed mode mechanism can be exercised.

SS then sends a MEASUREMENT CONTROL message to the UE, specifying that cell ~~2~~4 be the measurement object for inter-frequency type measurement. The periodic reporting criterion is selected for this measurement. SS waits for 8 seconds to allow the periodic timer to expire. The UE shall send a MEASUREMENT REPORT message containing measured result of cell ~~2~~4's reporting quantity (CPICH Ec/No). SS transmits PHYSICAL CHANNEL RECONFIGURATION message again, requesting the UE to switch from uplink and downlink DPCH to common physical channels. The UE shall return PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then move to CELL_FACH state. SS waits for another 8 seconds to detect any possible uplink MEASUREMENT REPORT messages as a result of inter-frequency measurements. SS then increases the transmission power of cell ~~2~~4 by 20 dB. SS waits for [x]

seconds to allow the UE to perform cell re-selection. The UE shall transmit a CELL UPDATE message on the uplink CCCH of cell ~~2~~4, specifying the cause as "cell re-selection". SS replies with CELL UPDATE CONFIRM message.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in idle mode and camped onto cell 1. SYSTEM INFORMATION BLOCK TYPE ~~12~~ 11 is redefined, disabling all measurement and reporting activities.
2	~~←~~		~~PAGING TYPE 1~~	SS ~~pages UE with cause set terminating~~ prompts the test operator to trigger an outgoing call for a supported traffic class
3	→		RRC CONNECTION REQUEST	
4	←		RRC CONNECTION SETUP	Uplink and downlink DPCH resources are allocated.
5	→		RRC CONNECTION SETUP COMPLETE	UE shall indicate that it's capable of performing inter-frequency measurement for FDD mode.
6	←		PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
7	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall ~~enter~~ remain in CELL_DCH state.
8	←		MEASUREMENT CONTROL	SS indicates that cell ~~2~~4 be monitored. SS waits for 8 seconds.
9	→		MEASUREMENT REPORT	UE shall transmit this message to report cell ~~2~~4's CPICH Ec/No value.
10	←		PHYSICAL CHANNEL RECONFIGURATION	SS changes the physical channel allocation to common channel configuration.
11	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall moves to CELL_FACH state.
12				SS waits for 8 seconds to verify that no MEASUREMENT REPORT messages are detected.
13				SS changes SYSTEM INFORMATION BLOCK TYPE 12 message to request cell ~~2~~4 to be included into neighbour cell list for inter-frequency measurements.
14				SS increases the transmission power of cell ~~2~~4 by 20 dB, and then waits for [x] seconds to allow the UE to re-select to a new cell.
15	→		CELL UPDATE	UE shall detect that cell ~~2~~4 has become the best cell and then perform cell re-selection procedure.
16	←		CELL UPDATE CONFIRM	

Notes:

The value [x] seconds is TBD, after the cell re-selection duration is determined from TS 25.304.

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 12

Information Element	Value/Remark
References to other system information blocks	Not Present
FACH measurement occasion info	
- k_UTRA	2
- Other RAT present in inter-system cell info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE Internal measurement system information	Not Present

~~PAGING TYPE 1~~

~~Information Element~~	~~Value/Remarks~~
~~Paging Record List~~	
~~- Paging Record~~	
~~- CHOICE Paging originator~~	~~CN Originator~~
~~- Paging cause~~	~~Terminating call for one of the supported traffic classes~~
~~- CN domain identity~~	~~CS Domain~~
~~- CHOICE UE Identity~~	~~IMSI (DS-41) or IMSI(GSM-MAP)~~
~~- IMSI (DS-41) or IMSI(GSM-MAP)~~	~~Set to the same digits as in USIM card~~
~~BCCH modification info~~	~~Not Present~~

RRC CONNECTION SETUP

Use the same message sub-type found in Clause 9 of TS_34.108, which is entitled “Transition to CELL_DCH”

RRC CONNECTION SETUP COMPLETE

Information Element	Value/Remarks
START List	
- CN Domain Identity	Check to see if it is present for all supported CN domains
- START	Check to see if it is present for all supported CN domains
UE Radio access capability	
- ICS Version	Checked to see if set to ‘R99’
- PDCP capability	Not checked.
- RLC capability	Not checked.
- Transport channel capability	Not checked.
- RF capability	Not checked.
- Physical channel capability	Not checked.
- UE multi-mode/multi-RAT capability	Not checked.
- Security capability	Not checked.
- LCS capability	Not checked.
- Measurement capability	
- FDD measurements DL	Checked to see if set to ‘TRUE’
- TDD measurements DL	Not checked.
- GSM measurements DL	Not checked.
- GSM 900 DL	Not checked.
- DCS 1800 DL	Not checked.
- GSM 1900 DL	Not checked.
- Multi-carrier measurement DL	Not checked.
- FDD measurements UL	Checked to see if set to ‘TRUE’
- TDD measurements UL	Not checked.
- GSM measurements UL	Not checked.
- GSM 900 UL	Not checked.
- DCS 1800 UL	Not checked.
- GSM 1900 UL	Not checked.
- Multi-carrier measurement UL	Not checked.
UE system specific capability	Not checked.

PHYSICAL CHANNEL RECONFIGURATION (Step 6)

Use the same message sub-type found in ~~Clause 9 of TS34.108~~Annex A, which is entitled "(~~-~~Packet to CELL_DCH from CELL_DCH in PS)", with the following exceptions in the IE(s) concerned:

Information Element	Value/Remarks
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- Spreading factor	Refer to the parameter set in TS 34.108
- Fixed or flexible position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits (SF=128, 256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRAfter2	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	

MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark
Measurement Identity Number	15
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell ~~2~~4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell ~~2~~4
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell ~~2~~4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell ~~2~~4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	~~FALSE~~TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	Not present
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	8 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 9)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 15
Measurement Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell ~~2~~4
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell ~~2~~4
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell ~~2~~4
- SFN-SFN observed time difference	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell ~~2~~4
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Event Results	Check to see if it is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 10)

Use the same message sub-type found in ~~Clause 9 of TS34.108~~Annex A, which is entitled "(Packet to CELL_FACH from CELL_DCH in PS)".

CELL UPDATE

Information Element	Value/Remarks
U-RNTI	Check to see if same to value as in RRC CONNECTION SETUP message
Integrity check info	Check to see if it is absent
AM_RLC error indication (for C-plane)	Check to see if it is set to FALSE
AM_RLC error indication (for U-plane)	Check to see if it is set to FALSE
Hyper frame number	Check to see if it is present
Cell update cause	Check to see if it is set to "Cell Reselection"
Protocol error info	Check to see if it is absent or set to FALSE
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM

Use the same message sub-type found in ~~Clause 9 of TS34.108~~Annex A.

8.4.1.6.5 Test Requirement

After step 4 the UE shall transmit RRC CONNECTION SETUP COMPLETE message with the IE "Measurement capability", indicating that both uplink and downlink inter-frequency measurements for FDD mode are supported.

After step 8 the UE shall transmit MEASUREMENT REPORT message to report cell ~~2~~4's CPICH Ec/No value.

After step 11 the UE shall stop sending MEASUREMENT REPORT messages, which contain inter-frequency measured results for cell ~~2~~4's CPICH Ec/No value.

After step 14 the UE shall transmit CELL UPDATE message to inform that a cell reselection to cell ~~2~~4 has occurred.

8.4.1.7 ~~–~~Measurement Control and Report: Intra-frequency measurement for transition from CELL_FACH to CELL_DCH state

8.4.1.7.1 ~~————————~~Definition

8.4.1.7.2 Conformance requirement

When transiting from CELL_FACH state to CELL_DCH state, the UE shall resume intra-frequency measurement if it has previously stored such a measurement context in CELL_DCH state. If the measurement context indicates reporting in CELL_DCH state, the UE shall re-start the associated reporting activities. In the case when the UE is not assigned any measurement tasks, it shall monitor the list of neighbouring cells stated in system information messages. It shall transmit MEASUREMENT REPORT messages when the reporting criteria (if specified in system information messages) are met. When in CELL_DCH state, the UE shall override existing measurement and reporting contexts extracted from system information messages, if a MEASUREMENT CONTROL message is received. The UE shall then apply the new measurement and reporting parameters accordingly. If the UE has performed a cell reselection whilst out of CELL_DCH state, the UE shall not re-start intra-frequency measurement previously designated to be resumed in CELL_DCH state.

Reference

3GPP TS 25.331, clause 8.4.1.8

8.4.1.7.3 Test Purpose

To confirm that UE resumes intra-frequency measurement and reporting when it enters CELL_DCH state from CELL_FACH state, if such a ~~condition exists~~measurement context (and optionally, the reporting context) has been stored before entering CELL_DCH state. To confirm that the UE continues to monitor the neighbour cells intra-frequency measurement list found in system information messages, if no previous assigned measurement is present. To confirm that the UE transmits MEASUREMENT REPORT messages if reporting conditions stated in system information messages have been satisfied. To confirm that a ~~subsequent~~ MEASUREMENT CONTROL message received in CELL_DCH state results in the overriding of current measurement and reporting contexts maintained by the UE.

8.4.1.7.4 Method of test

Initial Condition

System Simulator: 3 cells –All 3 are all active. The transmission power (RSCP) for CPICH of the 3 cells are as follow: cell 1 (-40dBm), cell 2 (-55dBm) and cell 3 (-70dBm).

UE: ~~CELL_FACH in cell 1.~~CS-CELL_FACH_Initial (state 6-2) or PS-CELL_FACH_Initial (state 6-4) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

The UE is brought to CELL_FACH state, after ~~the test operator has successfully initiated a packet-switched data call~~ it has successfully executed procedure P4 or P6 (depending on the CN domain supported by the UE) as specified in clause 7.4 of TS 34.108. The SYSTEM INFORMATION BLOCK TYPE 12 message is changed with respect to the default message contents, specifying that cell 2 is to be included in the neighbouring cell list for intra-frequency measurement. Event 1e is selected in IE "Intra-frequency measurement reporting criteria".

SS send a PHYSICAL CHANNEL RECONFIGURATION message to UE, allocating dedicated physical channels on both uplink and downlink direction. Upon receiving such a message, the UE shall return PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and move to CELL_DCH state. The UE shall send MEASUREMENT REPORT messages to indicate that the measured result of cell 2, as the measurement quantity has exceeded the threshold value in system information message. After receiving this message, SS transmits MEASUREMENT CONTROL message in which it specifies that intra-frequency measurement for cell 3 shall be performed. The reporting criteria are the same as in SYSTEM INFORMATION BLOCK TYPE 12 message, except that the reporting threshold is lowered. After receiving such a message, the UE shall transmit another MEASUREMENT REPORT message. SS verifies that only measurement reading for cell 3 is included and no IEs shall be present, which pertain to measurement quantity in cell 2. After receiving the MEASUREMENT REPORT message reporting readings for cell 3, SS transmits another MEASUREMENT CONTROL message. The key parameters specified in this message are: measurement command = 'setup', measurement type = 'intra-frequency measurement', measurement object = 'cell 2', reporting criteria = 'periodic reporting', measurement validity = 'resume', UE state for reporting = 'CELL_DCH'. SS verifies that the UE continue to send MEASUREMENT REPORT messages at 16 seconds interval, and that the contents of these messages are similar to those received prior to the transmission of the second downlink MEASUREMENT CONTROL messages.

Next, SS sends PHYSICAL CHANNEL RECONFIGURATION message to UE. In this message, the physical channel resources are switched to common physical channels – PRACH ~~(RACH)~~ for the uplink and S-CCPCH ~~(FACH)~~ for the downlink. UE shall reply with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE and transits to CELL_FACH. SS checks the uplink RACH to confirm that no MEASUREMENT REPORT messages are received. ~~SS then transmits another MEASUREMENT CONTROL message. The key parameters employed are: measurement type = 'intra-frequency measurement', measurement object = 'cell 2', reporting criteria = 'periodic reporting', measurement validity = 'resume', UE state for reporting = 'CELL_DCH'.~~ SS waits for 10 seconds before sending a PHYSICAL CHANNEL RECONFIGURATION message, comprising DP~~D~~CH physical channels. UE shall then return to CELL_DCH state, start to monitor the neighbour cell specified by the SS in the second MEASUREMENT CONTROL message while the UE was previously in CELL_~~FACH~~ DCH state. The UE shall resume periodic reporting of cell 2's CPICH RSCP measured results by sending MEASUREMENT REPORT messages. Following the reception of the MEASUREMENT REPORT message, SS commands the UE to stop performing measurements and generation of reports for cell 2. SS then verifies that no MEASUREMENT REPORT messages are detected. After this requirement is satisfied, SS sends MEASUREMENT CONTROL on the downlink DCCH once more. This message is identical to the one sent in step 7 (see specific message content).

In the next sequence, SS dispatches a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH. In this message, common physical channel resources are assigned to the UE. The UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then transit to CELL_FACH state. ~~Then SS sends a MEASUREMENT CONTROL message, with the content identical to the previous message of the type transmitted in step 10. This effectively signifies that the UE shall re-start the intra-frequency measurement and reporting activities related to cell 2, when it subsequently manages to return to CELL_DCH state.~~ SS monitor the uplink DCCH once more to verify that no MEASUREMENT REPORT messages are detected. Following this step, SS increases the P-CPICH RSCP of cell 3 to –45dBm and ~~shortly after this,~~then stops the transmission of all downlink physical channels of cell 1. SS then waits for timer T305 to expire. The UE shall discover an "out-of-service" condition and initiate a cell re-selection procedure. This ~~can be~~is verified ~~by~~ in the SS when ~~receiving~~ a CELL UPDATE message is received on the uplink CCCH~~,~~ with the "cell update cause" IE set to "cell reselection". SS sends a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH, assigning DPCH channel in both uplink and downlink directions. The UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then return to CELL_FACH state. SS checks that the UE does not generate any MEASUREMENT REPORT messages on the uplink DCCH.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 12	UE is initially in CELL_FACH after having successfully ~~connected a packet-switched data call~~executed procedure P4 or P6, depending on the supported CN domain. Refer to clause 7.4 of TS 34.108 for details. SYSTEM INFORMATION TYPE BLOCK TYPE 12 message is changed according to the descriptions in Specific Message Contents.
2		←	PHYSICAL CHANNEL RECONFIGURATION	Allocates DP~~D~~CH physical channels.
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_DCH state.
4		→	MEASUREMENT REPORT	Reports cell 2's RSCP value.
5		←	MEASUREMENT CONTROL	Specifies cell 3 as the measurement object for intra-frequency measurement. The reporting criteria is the same as defined in SYSTEM INFORMATION BLOCK TYPE 12 message, with the exception that threshold for event 1e is lowered.
6		→	MEASUREMENT REPORT	UE shall report the estimated value for cell 3's CPICH RSCP reading only.
7		←	MEASUREMENT CONTROL	SS instructs the UE to perform intra-frequency measurement and reporting for cell 2. These activities should be resumed if the UE subsequently transits to CELL_DCH state again.
8		→	MEASUREMENT REPORT	SS checks that the content of this message is the same as that received in step 6.
~~7~~9		←	PHYSICAL CHANNEL RECONFIGURATION	Allocates PRACH and S-CCPCH physical channels.
~~8~~10		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_FACH state.
~~9~~11				SS checks that no MEASUREMENT REPORT messages are sent by UE.
~~10~~		~~←~~	~~MEASUREMENT CONTROL~~	~~SS indicates that intra-frequency measurement and reporting for cell 2 be resumed if the UE subsequently transits to CELL_DCH state.~~
~~11~~12		←	PHYSICAL CHANNEL RECONFIGURATION	SS waits for 10 seconds before sending this message. DPCH physical channels are assigned to the UE in this message.
~~12~~13		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall return to CELL_DCH state.
~~13~~14		→	MEASUREMENT REPORT	UE begins to report cell 2's measured results again.
~~14~~15		←	MEASUREMENT CONTROL	Terminate all the intra-frequency measurement activity related to cell 2. SS checks that no more MEASUREMENT REPORT messages are sent by the UE.

16			SS waits for 16 seconds and verifies that UE stop transmitting MEASUREMENT REPORT messages.
17	~~←~~	MEASUREMENT CONTROL	Message is the same as in step 7
~~15~~187	←	PHYSICAL CHANNEL RECONFIGURATION	Allocates PRACH and S-CCPCH physical channels.
~~16~~198	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_FACH state.
~~17~~2019	~~←~~	~~MEASUREMENT CONTROL~~	SS checks that no MEASUREMENT REPORT messages are received. ~~Message is the same as in step 10~~
~~18~~210			SS increases the transmission power of cell 3 (P-CPICH RSCP is raised to –45dBm) and switches off all downlink transmissions for cell 1. SS then waits until T305 expires.
~~19~~221	→	CELL UPDATE	UE shall re-selects to cell 2 and then perform a cell update procedure.
23~~2~~0	←	CELL UPDATE CONFIRM	UE shall stay in CELL_FACH state.
24~~3~~1	→	PHYSICAL CHANNEL RECONFIGURATION	DPCH physical channels are assigned to the UE in this message.
25~~4~~2	←	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall return to CELL_DCH state.
26~~5~~3			SS checks that no MEASUREMENT REPORT messages are received on uplink DCCH.

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 12

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	10
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH Ec/No
- Intra-frequency measurement for RACH reporting	Not Present
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameter required for each event	
- Intra-frequency event identity	1e
- Triggering condition	Monitored set cells
- Reporting range	Not present
- Cells forbidden to affect reporting	Not present
- W	Not present
- Hysteresis	Not Present
- Threshold used frequency	-60dBm
- Reporting deactivation threshold	Not present
- Replacement activation threshold	Not present
- Time to trigger	0
- Amount of reporting	Infinity
- Reporting Interval	16 seconds
- Inter-frequency measurement system information	Not Present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, which is entitled “Packet to CELL_DCH from CELL_FACH in PS”

MEASUREMENT REPORT (Step 4)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 10
Measurement Results	
- CHOICE measurement	Check to see if set to “Intra-frequency measured results list”
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell 2
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it’s the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if it’s set to ‘Intra-frequency measurement event results’
- Intra-frequency event identity	Check to see if this IE is set to ‘1e’
- Cell measured event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it’s the same code for cell 2

MEASUREMENT CONTROL (Step 5)

Information Element	Value/Remark
Measurement Identity Number	11
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- Measurement validity	Not present
- CHOICE report criteria	Intra-frequency measurement criteria
- Parameters required for each event	
- Intra-frequency event identity	1e
- Triggering condition	Monitored set cells
- Reporting Range	Not Present
- Cells forbidden to affect Reporting range	Not Present
- Primary CPICH Info	
- Primary Scrambling Code	Set to the same scrambling code for cell 3
- W	Not Present
- Hysteresis	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Reporting Threshold	-90dBm
- Time to Trigger	0
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 6 and step 8)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 11
Measurement Results	
- CHOICE measurement	Check to see if set to “Intra-frequency measured results list”
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell 3
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it’s the same code for cell 3
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if it’s set to ‘Intra-frequency measurement event results’
- Intra-frequency event identity	Check to see if this IE is set to ‘1e’
- Cell measured event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it’s the same code for cell 3

PHYSICAL CHANNEL RECONFIGURATION (Step ~~7~~9 and ~~15~~187)

Use the same message sub-type found in ~~Clause 8.1 of TS34.108~~Annex A, which is entitled “Packet to CELL_FACH from CELL_DCH in PS”

MEASUREMENT CONTROL (Step ~~10~~7 and 17)

Information Element	Value/Remark
Measurement Identity Number	12
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- Measurement validity	Resume
- UE state	CELL_DCH
- CHOICE report criteria	Intra-frequency measurement criteria
- Parameters required for each event	
- Intra-frequency event identity	1e
- Triggering condition	Monitored set cells
- Reporting Range	Not Present
- Cells forbidden to affect Reporting range	Not Present
- Primary CPICH Info	
- Primary Scrambling Code	Set to the same scrambling code for cell 2
- W	Not Present
- Hysteresis	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Reporting Threshold	-65dBm
- Time to Trigger	0
- Amount of reporting	Infinity
- Reporting interval	16 seconds
- Reporting cell status	Not Present
DPCH compressed mode status info	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step ~~11~~12 and ~~21~~23~~4~~)

Same as in step 2

MEASUREMENT REPORT (Step ~~13~~14)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 12
Measurement Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell 2
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if it's set to 'Intra-frequency measurement event results'
- Intra-frequency event identity	Check to see if this IE is set to '1e'
- Cell measured event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it's the same code for cell 2

MEASUREMENT CONTROL (Step ~~14~~15)

Information Element	Value/Remarks
Measurement Identity Number	12
Measurement Command	Release
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE Measurement type	Not Present
DPCH compressed mode status info	Not Present

CELL UPDATE (Step 2~~1~~2)

Information Element	Value/Remarks
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step ~~21~~232)

Use the default message content of the same message type in Annex A.

8.4.1.7.5 Test Requirement

After step 3 the UE shall report cell 2's CPICH RSCP value by transmitting a MEASUREMENT REPORT message.

After step 5 the UE shall delete all measurement and reporting contexts obtained from system information messages. However, it shall transmit a MEASUREMENT REPORT message containing measured results of cell 3's CPICH RSCP value only.

After step 7 the UE shall continue to transmit MEASUREMENT REPORT messages, which contain identical contents to that sent in step 6.

After step ~~8~~ 11 the UE shall stop intra-frequency measurement reporting. ~~assigned previously in the MEASUREMENT CONTROL message received in step 5.~~

After step ~~12~~ 13 the UE shall resume the measurement and reporting activities as specified in MEASUREMENT CONTROL message received in step ~~10~~7. The UE shall transmit MEASUREMENT REPORT message, containing measured results of cell 2's CPICH RSCP value.

After step ~~14~~15 the UE shall stop all measurement activities pertaining to cell 2, no MEASUREMENT REPORT messages shall be detectable by the SS in the uplink DCCH.

After step ~~19~~210 the UE shall re-select to cell 3 and initiate a cell update procedure. SS shall receive a CELL UPDATE message on the uplink CCCH of cell 3, with the "cell update cause" IE stated as "cell re-selection".

After step ~~22~~254 the UE shall not start to perform measurement for cell 2, no MEASUREMENT REPORT messages shall be detectable by the SS in the uplink DCCH.

8.4.1.8 ~~–~~Measurement Control and Report: Inter-frequency measurement for transition from CELL_FACH to CELL_DCH state

8.4.1.8.1 ~~————————~~Definition

8.4.1.8.2 Conformance requirement

When transiting from CELL_FACH state to CELL_DCH state, the UE shall stop monitoring the list of inter-frequency neighbour cells indicated in system information messages. If the UE has a previously stored inter-frequency measurement context marked as 'resume', it shall reinstate the suspended measurement and associated reporting activities after it has re-entered CELL_DCH state. The UE shall be able to start/terminate inter-frequency measurement by decoding the "DPCH compressed mode status info" IE in MEASUREMENT CONTROL messages.

Reference

3GPP TS 25.331 clause 8.4.1.8, 8.5.7.6.13

8.4.1.8.3 Test Purpose

To confirm that the UE erases all inter-frequency measurement contexts used in CELL_FACH state, when it moves to CELL_DCH. To confirm that the UE resumes inter-frequency measurements and reporting, which was ~~assigned prior to CELL_FACH state~~ previously stored in the UE, after it moves to CELL_DCH state. To confirm that the UE resumes inter-frequency measurement and reporting activities after it has received a MEASUREMENT CONTROL message specifying that a stored compressed mode pattern sequence be re-activated.

8.4.1.8.4 Method of test

Initial Condition

SS: 3 cells – All 3 cells are active and the applicable radio conditions are stated in the table below:

	Cell 1	Cell ~~2~~4	Cell ~~3~~5
UARFCN (N_u and N_d)	Channel 1	Channel 2	Channel 2
CPICH RSCP	-60 dBm	-65 dBm	-75 dBm
$Q_{rxlevmin}$	-90 dBm	-90 dBm	-90 dBm
S	30	25	15

UE: ~~CELL_FACH in cell 1 after an incoming packet-switched data call is successfully established.~~CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

The UE is in CELL_~~FACH~~ DCH state after ~~a~~ successfully executing procedures P11 or P13 as specified in clause 7.4 of TS 34.108.~~ connection, triggered by an incoming packet-switched data call. SS modifies the~~

~~content of SYSTEM INFORMATION BLOCK TYPE 12 message, which indicates that cell 2 shall be included in the list of neighbouring cells to be monitored for inter-frequency measurements.~~ Next, SS transmits MEASUREMENT CONTROL message to request the UE to execute an inter-frequency measurement for cell ~~3~~5. The parameters of the reporting criteria are as follow: event-triggered with event identity ='2c', threshold for non-used frequency = '-80 dBm', hysteresis = '1.0dB', time to trigger = '10 seconds', amount of reporting = '1' and reporting interval = '0'. In the same message, IE "Measurement validity" is set to 'resume' and "UE state for reporting" is assigned the value 'CELL_DCH'. SS checks that no MEASUREMENT REPORT messages are detected on the uplink DCCH after it has transmitted the MEASUREMENT CONTROL message.

SS modifies the content of SYSTEM INFORMATION BLOCK TYPE 12 message, which indicates that cell 4 shall be included in the list of neighbouring cells to be monitored for inter-frequency measurements. Following this action, SS sends a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH and commands the UE to change its physical channel to PRACH and S-CCPCH. Once again, SS verifies that the UE does not transmit MEASUREMENT REPORT messages in the uplink direction.

SS sends PHYSICAL CHANNEL RECONFIGURATION message to allocate dedicated physical channels to the UE. Simultaneously, SS uses this message to command UE to start applying compressed mode mechanism for DPCH. The UE shall reply with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then move to CELL_DCH state. SS waits for 10 seconds. The UE shall transmit MEASUREMENT REPORT message, containing the selected frequency quality estimate (in ~~the~~ this case CPICH Ec/No) of cell ~~3~~5. SS verifies that this message does not contain measured results for cell ~~2~~4. After sending this message, the UE shall not transmit any more MEASUREMENT REPORT messages.

SS modifies the reporting criteria by transmitting a MEASUREMENT CONTROL message on the downlink DCCH using AM-RLC. In this message, SS commands the UE to perform inter-frequency measurement and reporting for cell ~~3~~5 using periodic reporting mechanism. Upon receiving this message, the UE shall transmit MEASUREMENT REPORT message at 2 seconds interval. In the next sequence, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message and deactivates the compressed mode pattern sequence with "TGPSI" IE set to 1. The UE shall respond by sending PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and also stop the periodic reporting activities. Following this, SS sends a MEASUREMENT CONTROL message and re-activates the compressed mode pattern sequence by using the "DPCH compressed mode status" IE. SS confirms that the UE has reconfigured itself to start measurement reporting again. The SS shall be able to receive MEASUREMENT REPORT messages continuously at 2 seconds interval.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of UE is in CELL_DCH state of cell 1, after executing procedure P11 or P13, depending on the supported CN domain. Refer to clause 7.4 of TS 34.108.
2		←	MEASUREMENT CONTROL	SS specifies inter-frequency measurement and reporting parameters for cell 5.
3				SS checks that no MEASUREMENT REPORT messages are detected on the uplink DCCH.
~~1~~4				~~UE is initially in CELL_FACH state after establishing an incoming packet-switched data call.~~ SS modifies SYSTEM INFORMATION BLOCK TYPE 12 to include cell ~~2~~4 into the neighbour cell list for inter-frequency measurements.
~~2~~		~~←~~	~~MEASUREMENT CONTROL~~	~~SS specifies inter-frequency measurement and reporting parameters for cell 3.~~
5		←	PHYSICAL CHANNEL RECONFIGURATION	SS allocates PRACH and S-CCPCH physical resources.
6		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall moves to CELL_FACH state.
7				SS confirms that there are no transmissions of MEASUREMENT REPORT message in the uplink direction.
~~3~~8		←	PHYSICAL CHANNEL RECONFIGURATION	SS allocates DPCH physical channels and specifies compressed mode parameters
~~4~~9		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE moves to CELL_DCH state.
~~5~~10		→	MEASUREMENT REPORT	UE shall resume inter-frequency measurement task for cell 5~~3~~ and transmit this message to report the measured CPICH Ec/No value
~~6~~11		←	MEASUREMENT CONTROL	SS changes the reporting criteria for cell ~~3~~5 to 'periodic reporting'
~~7~~12		→	MEASUREMENT REPORT	UE shall begin to transmit this message at 2 seconds interval.
~~8~~13		←	PHYSICAL CHANNEL RECONFIGURATION	SS deactivates the currently used pattern sequence for compressed mode operation.
~~9~~14		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE stays in CELL_DCH state. SS waits for 5 seconds and verifies that no MEASUREMENT REPORT messages are received.
~~10~~15		←	MEASUREMENT CONTROL	SS activates the pattern sequence stored by the UE.
~~11~~16		→	MEASUREMENT REPORT	SS checks that MEASURE-MENT REPORT messages are received at 2 seconds interval.

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 12 (Step 1)

Information Element	Value/Remark
References to other system information blocks	Not Present
FACH measurement occasion info	
- k_UTRA	2
- Other RAT present in inter-system cell info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency measurement identity number	15
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4~~2~~
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell ~~2~~4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -90dBm
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency measurement reporting criteria	
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not Present
- W used frequency	Not Present
- Hysteresis	1.0dB
- Time to trigger	10 sec
- Amount of reporting	1
- Reporting interval	0
- Parameters required for each non used frequency	
- Threshold non-used frequency	-80dBm
- W non-used frequency	0.0
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity Number	14
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell ~~3~~5
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell ~~3~~5
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell ~~3~~5
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell ~~3~~5
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	Not present
- Measurement validity	
- Resume/Release	Resume
- UE State	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not Present
- W used frequency	Not Present
- Hysteresis	0
- Time to trigger	10 seconds
- Amount of reporting	1
- Reporting Interval	0
- Reporting cell status	Not Present
- Parameters required for each non-used frequency	
- Threshold non used frequency	-80 dBm
- W non-used frequency	0.0
DPCH compressed mode status info	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 5)

Use the same message sub-type found in Annex A~~,~~ titled “(Packet to CELL_FACH from CELL_DCH in PS)”.

PHYSICAL CHANNEL RECONFIGURATION (Step ~~3~~8)

Use the same message sub-type found in ~~Clause 9 of TS34.108~~Annex A, which is entitled “(~~-~~Packet to CELL_DCH from CELL_FACH in PS)”, with the following exceptions in the IE(s) concerned:

Information Element	Value/Remarks
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- Spreading factor	Refer to the parameter set in TS 34.108
- Fixed or flexible position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits (SF=128, 256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRAfter2	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	

MEASUREMENT REPORT (Step 10~~5~~)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 14
Measurement Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell ~~3~~5
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell ~~3~~5
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell ~~3~~5
- SFN-SFN observed time difference	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell ~~3~~5
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Event Results	Inter-frequency event results
- CHOICE event result	Check to see if it's set to '2c'
- Inter-frequency event identity	
- Inter-frequency cells	
- Frequency Info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell ~~3~~5
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell ~~3~~5
- Non frequency related measurement event results	
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell ~~3~~5

MEASUREMENT CONTROL (Step ~~6~~11)

Information Element	Value/Remark
Measurement Identity Number	14
Measurement Command	Modify
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell ~~3~~5
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell ~~3~~5
- UARFCN downlink (Nd)	UARFCN of the downlink frequency for cell ~~3~~5
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell ~~3~~5
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	1
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	Not present
- Measurement validity	Not present
- Inter-frequency set update	Not Present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	2000 milliseconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step ~~7~~12, ~~11~~16)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 14
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell ~~3~~5
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell ~~3~~5
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell ~~3~~5
- SFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell ~~3~~5
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
Event Results	Check to see if it is absent

PHYSICAL CHANNEL RECONFIGURATION (Step ~~8~~13)

Use the same message transmitted in step ~~3~~8 with the following modifications:

Information Element	Value/Remarks
Downlink information common for all radio links - DPCH compressed mode info - TGPSI - TGPS Status Flag	 1 Inactive

MEASUREMENT CONTROL (Step ~~10~~15)

Information Element	Value/Remark
Measurement Identity Number	Any number except 14
Measurement Command	Release
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Not Present
DPCH compressed mode status info - Transmission gap pattern sequence - TGPSI - TGPS Flag	 1 Active

8.4.1.8.5 Test Requirement

After step 2 the UE shall not send any MEASUREMENT REPORT messages on the uplink DCCH of cell 1.

After step ~~4~~9 the UE shall transmit a MEASUREMENT REPORT message, containing the measured results for cell ~~3~~5's CPICH Ec/No value. The UE shall not transmit any messages pertaining to cell ~~2~~4's measurements.

After step ~~6~~11 the UE shall send MEASUREMENT REPORT messages, which comprises cell ~~3~~5's CPICH Ec/No measured value at 2 seconds interval. The "Event results" IE shall be omitted in these messages.

After step ~~8~~14 the UE shall not transmit any MEASUREMENT REPORT messages.

After step ~~10~~ 15 the UE shall resume the transmission of MEASUREMENT REPORT messages with identical contents as in those received after step 6.

8.4.1.9 Measurement Control and Report: Unsupported measurement in the UE

8.4.1.9.1 ~~———————~~Definition

8.4.1.9.2 Conformance requirement

If the UTRAN indicates the UE to perform a measurement that is not supported in the UE, the UE shall keep the measurement configuration. Then the UE shall transmit a MEASUREMENT CONTROL FAILURE message on the DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.4.1~~.~~

8.4.1.9.3 Test purpose

To confirm that the UE transmits a MEASUREMENT CONTROL FAILURE message, with the value "unsupported measurement" specified in IE "~~-~~failure cause" when the SS commanded the UE to perform an unsupported measurement by sending a MEASUREMENT CONTROL message.

8.4.1.9.4 Method of test

Initial Condition

System Simulator~~-~~: 1cell

UE-: ~~CELL_DCH~~CS-DCCH_DCH (State 6-5) or PS-DCCH_DCH (State 6-7) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

[-Editor's note-: It is assumed in this test that the UE under test does not possess any inter-system measurement capability. The mandatory type(s) of measurement capability that should be implemented by the UE is to be discussed-]

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a MEASUREMEN CONTROL message which includes parameters (e.g. Measurement identity number-: 2-, measurement command-: Setup-, measurement type: inter-system measurements, measurement reporting mode: unacknowledged and periodical reporting, measurement object: inter-system cell information, measurement quantity: Signal strength, reporting quantity: RSSI on BCCH carrier). As the UE under test does not support inter-system measurement, it shall transmit a MEASUREMENT CONTROL FAILURE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state.
2	←		MEASUREMENT CONTROL	Including the parameters (e.g. Measurement identity number : 2-, measurement command-: Setup-, measurement type: inter-system measurements, measurement reporting mode: unacknowledged and periodical reporting, measurement object: inter-system cell information, measurement quantity: Signal strength, reporting quantity: RSSI on BCCH carrier).
3	→		MEASUREMENT CONTROL FAILURE	Which is set to "unsupported measurement" in IE "-failure cause".

Specific Message Content

MEASUREMENT CONTROL

Information Element	Value/Remark
Measurement Identity Number	2
Measurement Command	Setup
Measurement Reporting Mode	Unacknowledged mode
Additional measurements list	Not Present
CHOICE measurement type	Inter-system measurement
- Inter-system cell info list	
- Removed inter-system cells	Not Present
- New inter-system cells	1
- Inter-system cell id	
- CHOICE *Radio Access Technology*	GSM
- $Qoffset_{s,n}$	Not Present
- HCS Neighbouring Cell Information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -90dBm
- Maximum allowed UL TX power	Set to the maximum allowed by UE RF power class
- BSIC	Set to the BSIC code of cell 2
- BSIC ARFCN	Set to the ARFCN assigned to cell 2
- Output power	Not Present
- Inter-system measurement quantity	
- CHOICE *reporting criteria*	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-system reporting quantity	
- UTRA Carrier RSSI	TRUE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	FALSE
- CPICH Ec/N0	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting Cell Status	Not Present
- CHOICE Report Criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting Interval	32 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT CONTROL FAILURE

Information Element	Value/Remarks
Failure cause	To check if it is set to “Unsupported measurement”

8.4.1.9.4 Test requirement

After step 2 the UE shall identify the unsupported measurement element in the MEASUREMENT CONTROL message and transmit a MEASUREMENT CONTROL FAILURE. In this message, the value “unsupported measurement” shall be specified in IE_”-failure cause”.

8.4.1.10 Measurement Control and Report: Failure (Invalid Message Reception)

8.4.1.10.1 ——————Definition

8.4.1.10.2 Conformance requirement

When the UE received a MEASUREMENT CONTROL message containing an unexpected conditional IE, it shall reply with a MEASUREMENT CONTROL FAILURE message stating the appropriate protocol error information. It shall maintain the monitoring and measurement reporting mechanism as in before the MEASUREMENT CONTROL message has been received.

Reference

3GPP TS 25.331 clause 8.4.1.9

8.4.1.10.3 Test Purpose

To confirm that the UE does not change its current monitoring and measurement settings after it has received an illegal MEASUREMENT CONTROL message, which contains an unexpected IE error. To confirm that the UE resume its normal measurement reporting operations after transmitting MEASUREMENT CONTROL FAILURE message to the SS.

8.4.1.10.4 Method of test

Initial Condition

System Simulator-: 1 cell.

UE-: ~~CELL_DCH~~CS-DCCH_DCH (State 6-5) or PS-DCCH_DCH (State 6-7) in cell 1 as specified in clause 7.4 of TS 34.108, depending on the CN domain supported by the UE.

Test Procedure

The UE is initially brought to CELL_DCH. SS transmits a MEASUREMENT CONTROL message to the UE, commanding it to start transmitting report messages for the reporting quantity “UE Transmitted Power”. SS then waits for the MEASUREMENT RERORT message with the allocated measurement identity to arrive. Then it transmits the MEASUREMENT CONTROL message again. In this message, SS requests that the reporting activities for “UE Transmitted Power” be stopped. At the end of this message, SS appends an unknown information element. When the UE receives this message, it shall reply with MEASURMENT CONTROL FAILURE message as it has detected a protocol error. It shall not cease to report its own transmission power level using MEASUREMENT REPORT messages.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is CELL_DCH state in cell 1.
2		←	MEASUREMENT CONTROL	SS transmits this message on downlink DCCH to instruct UE to start reporting the quantity “UE transmit power”.
3		→	MEASUREMENT REPORT	UE shall send this message periodically at 32 seconds interval
4		←	MEASURMENT CONTROL	SS sends a MEASUREMENT CONTROL message to request that UE stop the reporting activity.
5		→	MEASUREMENT CONTROL FAILURE	UE shall maintain its current measurement context and send this message.
6		→	MEASUREMENT REPORT	32 seconds after step 3, UE shall continue to transmit this message to the SS.

Specific Message Content

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity Number	3
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	
- Measurement quantity	UE Transmitted Power
- Filter coefficient	0
- UE internal reporting quantity	
- UE Transmitted Power	TRUE
- UE Rx-Tx time difference	FALSE
CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	32 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 3)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 3
Measurement Results	
CHOICE measurement	Check to see if set to "UE internal measurement"
- UE Transmitted Power	Check to see if the reported power is compatible with RF class
- UE Rx-Tx report entries	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity Number	3
Measurement Command	Stop
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Contains an arbitrary value
DPCH compressed mode status info	Not Present

MEASUREMENT CONTROL FAILURE (Step 5)

Information Element	Value/Remark
Failure cause	Check to see if set to "protocol error"
Protocol error information	Check to see if set to "Message extension not comprehended"

MEASUREMENT REPORT (Step 6)

Same as in the requirement for step 3

8.4.1.10.5 Test Requirement

After step 4 the UE shall transmit MEASUREMENT FAILURE message, stating the IE "failure cause" as "protocol error" and IE "protocol error information" as "message extension not comprehended". It shall continue to send MEASUREMENT REPORT with the correct identity number and measurement result entries at approximately 32 seconds interval.

Annex A. Default RRC Message Contents

This clause contains the default values of RRC messages, other than those specified in TS 34.108 clauses 6 and 9. Unless indicated otherwise in specific test cases, they shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements which are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

Default SYSTEM INFORMATION:

NOTE 1: SYSTEM INFORMATION BLOCK TYPE 1 (except for PLMN type “GSM-MAP”), SYSTEM INFORMATION BLOCK TYPE 8, SYSTEM INFORMATION BLOCK TYPE 9, SYSTEM INFORMATION BLOCK TYPE 10, SYSTEM INFORMATION BLOCK TYPE 14, SYSTEM INFORMATION BLOCK TYPE 15 and SYSTEM INFORMATION BLOCK TYPE 16 messages are not used.

Contents of ACTIVE SET UPDATE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	
Maximum allowed UL TX power	33dBm
Radio link addition information	(This IE is repeated for addition RL number.)
- Primary CPICH info	
- Primary scrambling code	The value is for additional cell
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- Spreading factor~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- TFCI combining indicator	TRUE
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition

- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set.
- Power offset information	Not Present
- FACH/PCH information	
- TFS	(PCH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- TFS	(FACH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- References to system information blocks	Not Present
- Scheduling information	
Radio link removal information	(This IE is repeated for removal RL number.)
- Primary CPICH info	
- Primary scrambling code	The value is for removal cell
TX Diversity Mode	None
SSDT information	Not Present

Contents of ACTIVE SET UPDATE COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information	Not checked

Contents of ACTIVE SET UPDATE FAILURE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	Value will be checked

Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not checked
Hyper frame number	Not checked
AM_RLC error indication(for c-plane)	Not checked
AM_RLC error indication(for u-plane)	Not checked
Cell update cause	See the test content
Protocol error indicator	Not checked
Measured results on RACH	Not checked
Protocol error information	Not checked

Contents of CELL UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
New U-RNTI	Not Present
~~- SRNC identity~~	
~~- S-RNTI~~	
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator(for C-plane)	FALSE
RLC reset indicator(for U-plane)	FALSE
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
URA identity	0000 0000 0001B
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	
Maximum allowed UL TX power	33dBm
PRACH info	Not Present
~~- Available Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Available SF~~	
~~- Scrambling code number~~	
~~- Puncturing Limit~~	
~~- Available Sub Channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
Downlink information common for one radio link	Not Present
~~- Primary CPICH info~~	

- Primary scrambling code - PDSCH with SHO DCH info - DSCH radio link identifier - TFCI Combining set - Radio link identifier - Primary CPICH info - Primary scrambling code - PDSCH code mapping - Downlink DPCH info for each RL - Primary CPICH usage for channel estimation - DPCH frame offset - Secondary CPICH info - Secondary scrambling code - Spreading factor - channelisation code - DL channelisation code - Secondary scrambling code - Code number - Scrambling code change - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode - Secondary CCPCH info - Selection Indicator - Primary CPICH usage for channel estimation - Secondary CPICH info - Secondary scrambling code - channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset - References to system information blocks - Scheduling information	

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Measurement Identity Number	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Measurement Reporting/Event Trigger Reporting Mode	Event Trigger
Additional measurement list	
- CHOICE Measurement type	
- Intra-frequency measurement	
- Intra-frequency cell info	
- New intra-frequency cell	
- Intra-frequency cell-id	0
- cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Primary CPICH info	
- Primary scrambling code	150
- Primary CPICH Tx power	Not Present
- Read SFN number	FALSE
- TX Diversity indicator	FALSE
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored cells	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-CFN observed time difference	FALSE
- Reporting quantities for detected set cells	Not Present
- Reporting cell status	Not Present
- Measurement validity	Not Present
- Periodical reporting criteria	
- Amount of reporting	Infinity
- Reporting interval	64 sec
- Inter-system measurement	Not Present
- LCS measurement	Not Present
- Traffic Volume measurement	Not Present
- Quality measurement	Not Present
- UE internal measurement	Not Present
DPCH Compressed mode status info	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	See the test content

Contents of MEASUREMENT REPORT message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Measurement identity number	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0010B
- SFN-SFN observed time difference	Not checked
- CFN-SFN observed time difference	Not checked
- Primary CPICH info	
- Primary scrambling code	150
- CPICH Ec/N0	Not checked
- CPICH RSCP	The presence should be checked
- Pathloss	Not checked
CN domain identity	Not checked
NAS message	Not checked
Measured results on RACH	Not checked

Contents of PAGING TYPE_1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	SMS
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE_1 message: TM (SMS in PS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	SMS
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE_2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Paging cause	Terminating Conversational Call
CN domain identity	CS domain
Paging Record Type identifier	Select the same type as in the IE “Initial UE Identity” in RRC CONNECTION REQUEST” message.

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Non-speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE

- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TPGS status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Selection Indicator~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present

- FACH/PCH information	Not Present
~~- TFS~~ ~~- Dynamic Transport format information~~ ~~- Number of Transport blocks~~ ~~- RLC size~~ ~~- Semi-static Transport Format information~~ ~~- Transmission time interval~~ ~~- Type of channel coding~~ ~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~ ~~- TFS~~ ~~- Dynamic Transport format information~~ ~~- Number of Transport blocks~~ ~~- RLC size~~ ~~- Semi-static Transport Format information~~ ~~- Transmission time interval~~ ~~- Type of channel coding~~ ~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~	
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10

- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLCsize~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	

~~- Dynamic Transport format information~~ ~~- Number of Transport blocks~~ ~~- RLC size~~ ~~- Semi-static Transport Format information~~ ~~- Transmission time interval~~ ~~- Type of channel coding~~ ~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~	
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8

- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	

~~- CRC size~~ ~~- TFS~~ ~~- Dynamic Transport format information~~ ~~- Number of Transport blocks~~ ~~- RLC size~~ ~~- Semi-static Transport Format information~~ ~~- Transmission time interval~~ ~~- Type of channel coding~~ ~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~	
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8

- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	

~~- TFS~~ ~~- Dynamic Transport format information~~ ~~- Number of Transport blocks~~ ~~- RLC size~~ ~~- Semi-static Transport Format information~~ ~~- Transmission time interval~~ ~~- Type of channel coding~~ ~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~	
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH power control info	Not Present
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	

~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~Inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 – TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling code change~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
~~- Spreading factor~~	~~Not Present~~
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE

- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH power control info	Not Present
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	

~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	1
~~- TGPS Status Flag~~	inactive
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	FDD Measurement
~~- TGPRC~~	62
~~- TGCFN~~	(Current CFN + (256 – TTI/10msec)) mod 256
~~- TGSN~~	8
~~- TGL1~~	10
~~- TGL2~~	5
~~- TGD~~	15
~~- TGPL1~~	35
~~- TGPL2~~	35
~~- RPP~~	Mode 1
~~- ITP~~	Mode 1
~~- UL/DL Mode~~	DL
~~- Downlink compressed mode method~~	SF/2
~~- Uplink compressed mode method~~	Not Present
~~- Downlink frame type~~	A
~~- DeltaSIR1~~	2.0
~~- DeltaSIRafter1~~	1.0
~~- DeltaSIR2~~	Not Present
~~- DeltaSIRafter2~~	Not Present
~~- TX Diversity mode~~	None
~~- SSDT information~~	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling code change~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE

- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Message Type Other information element	 Not checked

Contents of RADIO BEARER SETUP message: AM or UM (Non-speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	
- Ciphering mode command	Start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time info	Not Present
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	Not Present
~~- RB identity~~	
~~- CHOICE RLC info type~~	
~~- RLC info~~	
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- Timer_MRW~~	
~~- Timer discard~~	
~~- MaxMRW~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC discard	Not Present
- CHOICE Downlink RLC mode	TM RLC

Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)

- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	SameAsUL
UL TrCH identity	2
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- UL TrCH identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)

- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	

~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	
- Ciphering mode command	Start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	5
- RLC sequence number	Current RLC SN + 2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	Not Present
~~- RB identity~~	
~~- CHOICE RLC info type~~	
~~- RLC info~~	
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- Timer_MRW~~	
~~- Timer discard~~	
~~- MaxMRW~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions

- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1

- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC Size	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.

- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- CHOICE DL parameters	Independent
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5

- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	

~~- Number of Transport blocks~~ ~~- RLC size~~ ~~- Semi-static Transport Format information~~ ~~- Transmission time interval~~ ~~- Type of channel coding~~ ~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	
- Ciphering mode command	Start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	5
- RLC sequence number	Current RLC SN + 2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	Not Present
~~- RB identity~~	
~~- CHOICE RLC info type~~	
~~- RLC info~~	
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- Timer_MRW~~	
~~- Timer discard~~	
~~- MaxMRW~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	

- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	

- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256

- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	

~~- CRC size~~ ~~- TFS~~ ~~- Dynamic Transport format information~~ ~~- Number of Transport blocks~~ ~~- RLC size~~ ~~- Semi-static Transport Format information~~ ~~- Transmission time interval~~ ~~- Type of channel coding~~ ~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	5
- RLC sequence number	Current RLC SN + 2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	Not Present
~~- RB identity~~	
~~- CHOICE RLC info type~~	
~~- RLC info~~	
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- Timer_MRW~~	
~~- Timer discard~~	
~~- MaxMRW~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
RAB information for setup	
- RAB info	(AM DTCH for PS domain)
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	

- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	

- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- Logical channel max loss	0
- MAC logical channel priority	1
RB information to be affected	(UM CCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	~~5~~6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	

- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	

- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	1
~~- TGPS Status Flag~~	Inactive
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	FDD Measurement
~~- TGPRC~~	62
~~- TGCFN~~	(Current CFN + (256 – TTI/10msec)) mod 256
~~- TGSN~~	8
~~- TGL1~~	10
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	

- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	0 chips
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	Reference to TS34.108 clause 6.10 Parameter Set
~~- Code number~~	
~~- Scrambling code change~~	No change
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	5
- RLC sequence number	Current RLC SN
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	Not Present
~~- RB identity~~	
~~- CHOICE RLC info type~~	
~~- RLC info~~	
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- Timer_MRW~~	
~~- Timer discard~~	
~~- MaxMRW~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
RAB information for setup	(AM DTCH for PS domain)
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	

- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	

- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH for downlink RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	~~6~~5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE DL parameters	Independent

- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	

- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	1
~~- TGPS Status Flag~~	Inactive
~~- Transmission gap pattern sequence confuguration parameters~~	
~~- TGMP~~	FDD Measurement
~~- TGPRC~~	62
~~- TGCFN~~	(Curretn CFN + (256 – TT/10msec)) mod 256
~~- TGSN~~	8
~~- TGL1~~	10
~~- TGL2~~	5
~~- TGD~~	15
~~- TGPL1~~	35
~~- TGPL2~~	35
~~- RPP~~	Mode 1
~~- ITP~~	Mode 1
~~- UL/DL Mode~~	DL
~~- Downlink compressed mode method~~	SF/2
~~- Uplink compressed mode method~~	Not Present
~~- Downlink frame type~~	A
~~- DeltaSIR1~~	2.0
~~- DeltaSIRafter1~~	1.0
~~- DeltaSIR2~~	Not Present
~~- DeltaSIRafter2~~	Not Present
~~- TX Diversity mode~~	None
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	

- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	0 chips
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling code change~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Non-speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to reconfigure	Not Present
~~- RB identity~~	
~~- PDCP info~~	
~~- RLC info~~	
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- Timer_MRW~~	
~~- Timer discard~~	
~~- MaxMRW~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~-RB suspend/resume~~	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM DTCH)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor

- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted DL TrCH information	Not Present
~~- Transport channel identity~~	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set

- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	100
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	

~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to reconfigure	Not Present
~~- RB identity~~	
~~- PDCP info~~	
~~- RLC info~~	
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- Timer_MRW~~	
~~- Timer discard~~	
~~- MaxMRW~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~-RB suspend/resume~~	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(DTCH TM)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(DTCH TM)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1

RB information to be affected	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
~~- Transport channel identity~~	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00

- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	

~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to reconfigure	Not Present
~~- RB identity~~	
~~- PDCP info~~	
~~- PDCP info~~	
~~- RLC info~~	
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- Timer_MRW~~	
~~- Timer discard~~	
~~- MaxMRW~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~-RB suspend/resume~~	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(AM DTCH)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.

- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Additon
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB

- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	0 (single)
~~- Spreading factor~~	Reference to TS34.108 clause 6.10 Parameter Set
~~- Fixed or Flexible Position~~	Flexible
~~- TFCI existence~~	TRUE
~~- Number of bits for Pilot bits(SF=128,256)~~	Not Present
~~- Downlink DPCH Offset Value~~	0
~~- DPCH compressed mode info~~	
~~- TGPSI~~	1
~~- TGPS Status Flag~~	Inactive
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	FDD Measurement
~~- TGPRC~~	62
~~- TGCFN~~	(Current CFN + (256 – TTI/10msec)) mod 256
~~- TGSN~~	8
~~- TGL1~~	10
~~- TGL2~~	5
~~- TGD~~	15
~~- TGPL1~~	35
~~- TGPL2~~	35
~~- RPP~~	Mode 1
~~- ITP~~	Mode 1
~~- UL/DL Mode~~	DL
~~- Downlink compressed mode method~~	SF/2
~~- Uplink compressed mode method~~	Not Present
~~- Downlink frame type~~	A
~~- DeltaSIR1~~	2.0
~~- DeltaSIRafter1~~	1.0
~~- DeltaSIR2~~	Not Present
~~- DeltaSIRafter2~~	Not Present
~~- TX Diversity mode~~	None
~~- SSDT information~~	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present

~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	

RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- MAX_DAT~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	

~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- MAX_DAT~~	

~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	Not Present
~~- RB identity~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~-Logical channel identity~~	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)

- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	
- Transport channel identity	3
Deleted DL TrCH information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00

- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	

~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM(Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	

Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- MAX_DAT~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	

~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	

~~- Transmission RLC discard~~	
~~- CHOICE SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to reconfigure	(TM CCCH uplink for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to reconfigure	(UM CCCH downlink for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to reconfigure	(TM BCCH for RRC)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to reconfigure	(TM PCCH for RRC)
- RB identity	7
- PDCP info	Not Present

- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
RB information to be affected	Not Present
~~- RB identity~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set

- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	

- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~Inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 - TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling code change~~	

~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM(Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- MAX_DAT~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	

~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	

~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
~~- CHOICE Uplink RLC mode~~	
~~- Transmission RLC discard~~	
~~- SDU discard mode~~	
~~- MAX_DAT~~	
~~- Transmission window size~~	
~~- Receiving window size~~	
~~- Timer_RST~~	
~~- Max_RST~~	
~~- Polling info~~	
~~- Timer_poll_prohibit~~	
~~- Timer_poll~~	
~~- Poll_SDU~~	
~~- Last transmission PU poll~~	
~~- Last retransmission PU poll~~	
~~- Poll_Windows~~	
~~- CHOICE Downlink RLC mode~~	
~~- In-sequence delivery~~	
~~- Receiving window size~~	
~~- Downlink RLC status info~~	
~~- Timer_status_prohibit~~	
~~- Timer_EPC~~	
~~- Missing PU indicator~~	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to reconfigure	(TM CCCH uplink for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	Not Present
Segmentation Indication	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to reconfigure	(UM CCCH for RRC)
- RB identity	0
- PDCP info	Not Present

- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to reconfigure	(TM BCCH for RRC)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to reconfigure	(TM PCCH for RRC)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
RB information to be affected	Not Present
~~- RB identity~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	

- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set

- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~Inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 – TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present

Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling Code change~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Other information element	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information list	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM (Non-speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2

RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class Identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)

- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present

- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	

- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to release	
- RB identity	7
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1

- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Deleted UL TrCH Information	
- Transport channel identity	3
Deleted UL TrCH Information	
- Transport channel identity	4
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class Identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	

- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- UL TrCH Identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35

- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	

~~- Transmission time interval~~ ~~- Type of channel coding~~ ~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3

- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class Identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).

- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	

- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to release	
- RB identity	7
RB information to release	
- RB identity	0
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3

- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Siz	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	Not Present
~~- Transport channel identity~~	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class Identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	

- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL

- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	

~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3

- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH downlink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	

~~- DRAC Class Identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH Information	Not Present
~~- Transport channel identity~~	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0

- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 – TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present

- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling code change~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH

- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH downlink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Deleted UL TrCH Information	Not Present
~~- Transport channel identity~~	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class Identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	

- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	Not Present
~~- Transport channel identity~~	
~~- CHOICE DL parameters~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- DCH quality target~~	
~~- BLER Quality value~~	
~~- Transparent mode signalling info~~	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	

~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 – TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Code number~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	

~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Non-speech in CS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	

- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
~~- RB identity~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present

- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	

- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present

Contents of RNTI REALLOCATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
New U-RNTI	See the test content
- SRNC identity	
- S-RNTI	
New C-RNTI	See the test content
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	

Contents of RNTI REALLOCATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information	Not checked

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Speech in CS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	0
- RLC sequence number	Current RLC SN + 2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC

- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1

- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- RB information to setup	
- RB identity	6
- PDCP info	Not Present

- RLC info	Not Present
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- RB information to setup	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
~~- RB identity~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present

- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL

- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	2
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	3
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	4
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	4 bits
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0

- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	0
- RLC sequence number	Current RLC SN + 2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	

- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC

- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
~~- RB identity~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set

- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set

- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	

~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	0
- RLC sequence number	Current RLC SN + 2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	

- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AMR RLC

- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
~~- RB identity~~	
~~- RB mapping info~~	
~~- Information for each multiplexing option~~	
~~- Number of RLC logical channels~~	
~~- Uplink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
~~- MAC logical channel priority~~	
~~- Logical channel max loss~~	
~~- Number of RLC logical channels~~	
~~- Downlink transport channel type~~	
~~- Transport channel identity~~	
~~- Logical channel identity~~	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set

- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set

- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	

~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT REQUEST message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Hyper frame number	Not checked
Radio bearer uplink ciphering activation time info	SS must follow the IE to cipher on each RB.
RB with PDCP information list	Not checked
- RB with PDCP information	

Contents of RRC CONNECTION RE-ESTABLISHMENT REQUEST message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Value is checked to see if it is equal to the previously assigned U-RNTI
Integrity check info	Not checked
Hyper frame number	Value if checked to see if it is equals to “maximum value in the currently used HFNs among CS and PS domains” + 1
AM_RLC error indication (for C-plane)	Not checked
AM_RLC error indication (for U-plane)	Not checked
Protocol error indicator	Value is checked to see if it is set to FALSE
Measured results on RACH	Not checked
Protocol error information	Should be absent as “Protocol error indicator” = FALSE

Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
Initial UE identity	Set to the UE's IMSI (GSM-MAP) or TMSI.
Rejection cause	Unspecified
Wait Time	0
Redirection info	Not Present

Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_FACH)

Information Element	Value/remark
Message Type	
Initial UE identity	Reference to TS34.108 clause 6.10 Parameter Set
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
UTRAN DRX cycle length coefficient	5 (2 to 12)
Capability update requirement	
- UE radio access capability update requirement	FALSE
- System specific capability update requirement	Not Present
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE

- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8

- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
Signalling RB information to setup	(TM CCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	Not Present
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
Signalling RB information to setup	(UM CCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	~~5~~6
Signalling RB information to setup	(TM BCCH for RRC)
- RB identity	6
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	~~6~~5
Signalling RB information to setup	(TM PCCH for RRC)
- RB identity	7
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)

- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8

- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 - TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink information for each radio links	Not Present
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
~~- PDSCH with SHO DCH info~~	
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
~~- PDSCH code mapping~~	
~~- DL Scrambling Code~~	
~~- Signalling Method~~	
~~- Downlink DPCH info for each RL~~	
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling code change~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
~~- Secondary CCPCH info~~	
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	

~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
~~- TFCS~~	~~Not Present~~
~~- FACH/PCH information~~	~~Not Present~~
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- Scheduling information~~	

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked.
Protocol error information	
- Protocol error cause	Value will be checked.

Contents of SECURITY MODE FAILURE message : AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	Value will be checked

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Non-speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCO info	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set

- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present

- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	

- References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	

~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	

DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1

- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	

~~- Coding Rate~~ ~~- Rate matching attribute~~ ~~- CRC size~~ - References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set

- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE

- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
~~- Selection Indicator~~	
~~- Primary CPICH usage for channel estimation~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	

~~- Secondary scrambling code~~	
~~- SSDT Indicator~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Pilot symbol existence~~	
~~- TFCI existence~~	
~~- Fixed or Flexible Position~~	
~~- Timing offset~~	
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1

- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3

- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 – TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR1~~	~~Not Present~~
~~- DeltaSIRafter1~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	
~~- DPCH frame offset~~	

~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling code change~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
~~- Transmission Time Validity~~	
~~- Time duration before retry~~	
~~- DRAC Class identity~~	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	

- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
~~- BLER Quality value~~	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2

- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	
~~- Spreading factor~~	
~~- Fixed or Flexible Position~~	
~~- TFCI existence~~	
~~- Number of bits for Pilot bits(SF=128,256)~~	
~~- Downlink DPCH Offset Value~~	
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 - TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
~~- DSCH radio link identifier~~	
~~- TFCI Combining set~~	
~~- Radio link identifier~~	
~~- Primary CPICH info~~	
~~- Primary scrambling code~~	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
~~- Primary CPICH usage for channel estimation~~	

~~- DPCH frame offset~~	
~~- Secondary CPICH info~~	
~~- Secondary scrambling code~~	
~~- channelisation code~~	
~~- DL channelisation code~~	
~~- Secondary scrambling code~~	
~~- Spreading factor~~	
~~- Code number~~	
~~- Scrambling code change~~	
~~- TPC combination index~~	
~~- SSDT Cell Identity~~	
~~- Closed loop timing adjustment mode~~	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
~~- Secondary scrambling code~~	
~~- channelisation code~~	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLCsize~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
~~- TFS~~	
~~- Dynamic Transport format information~~	
~~- Number of Transport blocks~~	
~~- RLC size~~	
~~- Semi-static Transport Format information~~	
~~- Transmission time interval~~	
~~- Type of channel coding~~	
~~- Coding Rate~~	
~~- Rate matching attribute~~	
~~- CRC size~~	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Other information element	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information list	Not checked

Contents of TRANSPORT FORMAT COMBINATION CONTROL message : AM or UM (in CELL_DCH)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- Message authentication code	
- RRC Message sequence number	
DPCH TFCS in Uplink	
- Allowed Transport format combination index	0 (The TFC is constructed from ALL TF0)

Contents of UE CAPABILITY ENQUIRY message : [TBD]

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Capability update requirement	
- UE radio access capability update requirement	TRUE
- System specific capability update requirement list	UE only supports 1 system
- System specific capability update requirement	GSM

Contents of UE CAPABILITY INFORMATION message : AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
UE radio access capability	Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings
- ICS Version	
- PDCP Capability	
- RLC Capability	
- Transport channel capability	
- RF Capability	
- Physical channel capability	
- UE multi-mode/multi-RAT capability	
- Security Capability	
- LCS Capability	
- Measurement capability	
UE system specific capability	Value will be checked. UE must include the classmark information for the supported system

Contents of UE CAPABILITY INFORMATION CONFIRM message : UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked

Contents of URA UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	~~Not checked~~
AM_RLC error indication	Not checked
URA update cause	See the test content
Protocol error indicator	Not checked
Protocol error information	Not checked

Contents of URA UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
~~- Integrity protection mode command~~	
~~- Downlink integrity protection activation info~~	
~~- RRC message sequence number~~	
~~- RRC message sequence number~~	
~~- Integrity protection algorithm~~	
~~- Integrity protection initialisation number~~	
Ciphering mode info	Not Present
~~- Ciphering mode command~~	
~~- Ciphering algorithm~~	
~~- Activation time for DPCH~~	
~~- Radio bearer downlink ciphering activation time info~~	
~~- Radio bearer identity~~	
~~- RLC sequence number~~	
New U-RNTI	Not Present
~~- SRNC identity~~	
~~- S-RNTI~~	
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
~~- PLMN identity~~	
~~- CN common GSM-MAP NAS system information~~	
~~- CN domain identity~~	
~~- CN domain specific GSM-MAP NAS system information~~	
URA identity	See the test content
RB with PDCP information	Not Present
~~- RB identity~~	
~~- PDCP SN info~~	

Annex B (informative): Change history

Meeting -1st-Level	Doc-1st-Level	CR	Rev	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level
TP-08				Approval of the specification		2.0.0	3.0.0	
TP-09	TP-000135	001		Idle mode test cases	F	3.0.0	3.1.0	T1-000165
TP-09	TP-000135	002		Section 8, RRC Tests: RLCSize	C	3.0.0	3.1.0	T1-000169
TP-09	TP-000135	003		Section 8, RRC Tests: HFN	C	3.0.0	3.1.0	T1-000170
TP-09	TP-000135	004		Section 8, RRC Tests: RLCParam	C	3.0.0	3.1.0	T1-000171
TP-09	TP-000135	005		Section 8, RRC Tests: RBIdentity	C	3.0.0	3.1.0	T1-000172
TP-09	TP-000135	006		Section 8, RRC Tests: TrCHParam	C	3.0.0	3.1.0	T1-000173
TP-09	TP-000135	007		Section 8, RRC Tests: UECapability	C	3.0.0	3.1.0	T1-000174
TP-09	TP-000135	008		Section 8, RRC Tests: RBMapping	C	3.0.0	3.1.0	T1-000175
TP-09	TP-000135	009		Section 8, RRC Tests: PagingCause	C	3.0.0	3.1.0	T1-000176
TP-09	TP-000135	010		Section 8, RRC Tests: RRCConnRelease-TM	B	3.0.0	3.1.0	T1-000177
TP-09	TP-000135	011		Section 8, RRC Tests: SignallingRelease	B	3.0.0	3.1.0	T1-000178
TP-09	TP-000135	012		Section 8, RRC Tests: CipheringAndIntegrity	C	3.0.0	3.1.0	T1-000179
TP-09	TP-000135	013		Section 8, RRC Tests: Countercheck_rev	B	3.0.0	3.1.0	T1-000180
TP-09	TP-000135	014		Section 8, RRC Tests: RLCInfo	C	3.0.0	3.1.0	T1-000181
TP-09	TP-000135	015		Section 8, RRC Tests: CompressedMode	C	3.0.0	3.1.0	T1-000182
TP-09	TP-000135	016		Section 8, RRC Tests: SIB	F	3.0.0	3.1.0	T1-000183
TP-09	TP-000135	017		Section 8, RRC Tests: PhyCH	D	3.0.0	3.1.0	T1-000184
TP-09	TP-000135	018		Section 8, RRC Tests: Measurement	C	3.0.0	3.1.0	T1-000185
TP-09	TP-000135	019		Section 8, RRC Tests: FailureCases	C	3.0.0	3.1.0	T1-000186
TP-09	TP-000135	020		Section 8, RRC Tests: TFCS	C	3.0.0	3.1.0	T1-000187
TP-09	TP-000135	021		Section 8, RRC Tests: DPCHFrameOffset	C	3.0.0	3.1.0	T1-000188
TP-09	TP-000135	022		Section 8, RRC Tests: ReEstablishmentTimer	C	3.0.0	3.1.0	T1-000189
TP-09	TP-000135	023		Section 8, RRC Tests: InterFrequencyHardHandOver	F	3.0.0	3.1.0	T1-000206
TP-09	TP-000135	024		clause 12.4.1.5 "Routing area updating / abnormal cases / attempt counter check / miscellaneous reject causes"	C	3.0.0	3.1.0	T1-000211
TP-09	TP-000135	025		SM test cases	C	3.0.0	3.1.0	T1-000208
TP-09	TP-000135	026		MM : Authentication	F	3.0.0	3.1.0	T1-000207
TP-09	TP-000135	027		Update of radio bearer test cases (aligned to GSMA ISG version 1.3)	F	3.0.0	3.1.0	T1-000213
TP-09	TP-000135	028		MAC tests	B	3.0.0	3.1.0	T1-000218
TP-09	TP-000135	029		PDCP tests	B	3.0.0	3.1.0	T1-000166
TP-09	TP-000135	030		BMC tests	B	3.0.0	3.1.0	T1-000167
TP-09	TP-000135	031		RRC updates	F	3.0.0	3.1.0	T1-000168
TP-09	TP-000135	032		clause 12.6.1.2 "Authentication rejected"	F	3.0.0	3.1.0	T1-000210
TP-09	TP-000135	033		clause 12.6 "PS authentication and ciphering"	C	3.0.0	3.1.0	T1-000209

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000
3GPP/TSG T1/SIG Meeting #14
Redondo Beach, USA, 13-15 November 2000

Document T1-000293
e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

Document T1S000244
e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

34.123-1	CR	041	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ | *↑ CR number as allocated by MCC support team*

For submission to:	T#10	For approval	X	strategic		(for SMG
list expected approval meeting # here ↑		for information		non-strategic		use only)

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Matsushita Communication Industry **Date:** 13/11/2000

Subject: Updates to clause 8 and Annex A due to RAN2 core specifications modifications

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature	X		Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change:

Clause 8 and Annex A were updated according to the latest approved CRs by RAN2 for TS 34.123-1 V3.3.0 during RAN2 #14 and #15 meetings.

The following paragraphs list the updates in clause 8.1.X:

1. CR-478r1: Several changes concerning RRC connection release procedure are required:
   - Clause 8.1.3.2 is updated as the UE will respond with RRC CONNECTION RELEASE COMPLETE message when it receives an RRC CONNECTION RELEASE message on the downlink DCCH. Existing test descriptions, test steps and test requirement pertaining to these conditions are revised. Clause 8.1.3.3 (new) is also added to check that UE behaves correctly when RRC CONNECTION RELEASE message is received on the downlink CCCH, while UE is in CELL_FACH state.
   - A new clause 8.1.3.5 is proposed. This is to verify that the UE proceed to release the RRC connection, even when it receives an invalid RRC CONNECTION RELEASE message. Prior to the RRC connection release, the UE shall send RRC CONNECTION RELEASE COMPLETE message with the appropriate cause in "Error indication IE".
   - Clause 8.1.4.5 the UE need not send RRC CONNECTION RELEASE COMPLETE message when a RRC connection re-establishment attempt is explicitly rejected by the UTRAN. Existing test descriptions, test steps and test requirement pertaining to these conditions are removed.
2. CR-425r1: Clause 8.1.7 is enhanced to include the activation of integrity mode protection. With the clarifications introduced in this CR, the test case is substantially revised. Test steps are introduced to ensure the uplink and downlink ciphering activation time has elapsed. Verifications for the correct UE ciphering and integrity behaviour are done by checking the COUNTER CHECK RESPONSE messages carried by RB 2.
3. CR-424: The allowable values T300 can take have been modified. The 5 seconds specified for T300 in clause 8.1.1.1.4 is no longer acceptable, it is now changed to 6 seconds instead. T300, N300, T312 and N312 do not take default values "now", therefore, values are given to SIB TYPE 1 in specific message content of clause 8.1.1.4.4. Also, in clause 8.1.4.11.4, the values of T314 and N313 are corrected.

The following paragraphs list the updates in clause 8.2.X:

1. CR-492r3: The values of "Integrity protection algorithm" IE are revised. The RADIO BEARER SETUP message found in the specific message content sub-clause of clause 8.2.1.2.4 is updated accordingly.

The following paragraphs list the updates in clause 8.3.X:

1. CR-356r3: "Selection indicator" IE is deleted from "Secondary CCPCH info" IE. Several CELL UPDATE CONFIRM messages in the specific message contents sub-clauses are revised.
2. CR-427: "Scrambling code number" IE in "PRACH info" IE is renamed to "Preamble scrambling code number". Several CELL UPDATE CONFIRM messages in the specific message contents sub-clauses are revised.
3. CR-428: In clauses 8.3.2.5 and 8.3.2.6, there is no need for the UE to temporary store the list of URA IDs broadcast in the cell before the initiation of URA UPDATE procedure.
4. CR-438r1: "Hyper frame number" IE in CELL UPDATE message is changed to "START List" IE. All CELL UPDATE messages to be checked in specific message contents are updated accordingly.
5. CR-452: In clause 8.3.1.14, addition of IE "PRACH TFCS" in RADIO BEARER SETUP message.
6. CR-454: Several IEs in "Radio link addition information" IE are group into a new IE called "SCCPCH information for FACH". Specific message contents with ACTIVE SET UPDATE containing this IE are revised.
7. CR-461r1: Cell Update Confirm message may optionally be sent on CCCH but only if ciphering is not required. Clause 8.3.1.16 (new) has been added to test the UE on

Clauses affected:	8.1.1.1, 8.1.1.4.4, 8.1.3.2, 8.1.3.3(new), 8.1.3.4, 8.1.3.5(new), 8.1.4.11.4, 8.1.7, 8.2.1.2.4, 8.3.1.9, 8.3.1.14, 8.3.1.16(new), 8.3.1.17(new), 8.3.2.5, 8.3.2.6, 8.3.2.9(new), 8.3.3.X 8.4.1.X Annex A, 8.2.1.3, 8.2.1.9, 8.2.1.14, 8.2.1.20, 8.2.2.2, 8.2.2.7, 8.2.2.9, 8.2.2.13, 8.2.2.15, 8.2.2.20, 8.2.2.22, 8.2.2.26, 8.2.3.2, 8.2.3.8, 8.2.3.13, 8.2.3.19, 8.2.4.2, 8.2.4.8, 8.2.4.14, 8.2.4.20, 8.2.6.2, 8.2.6.8, 8.2.6.13, 8.2.6.19. 8.2.2.31 (new), 8.2.2.32 (new), 8.2.2.33 (new), 8.2.2.34 (new), 8.2.3.26 (new), 8.2.3.27 (new), 8.2.4.28 (new), 8.4.2.29 (new), 8.4.2.30 (new), 8.2.2.31 (new), 8.2.6.27 (new), 8.2.2.28 (new), 8.2.2.29 (new), 8.2.2.30 (new), 8.4.1.11 (new), 8.4.1.12 (new), 8.4.1.13 (new)

Other specs affected:			
Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications	X	→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:	

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8. Layer 3

8 Radio Resource Control RRC

8.1 RRC Connection Management Procedure

8. 1.1 Paging

8.1.1.1 Paging for Connection in idle mode

8.1.1.1.1 Definition

8.1.1.1.2 Conformance requirement

In idle mode, UE monitors the paging occasions determined using parameters from SYSTEM INFORMATION BLOCK messages. When the UE receives a PAGING TYPE 1 message transmitted on PCCH during one of its assigned paging occasions, it should attempt to establish an RRC connection.

Reference

3GPP TS 25.331 clause 8.1.2, 3GPP TS 25.211 clause 5.3.3.7, 3GPP TS 25.304 clause 8.

8.1.1.1.3 Test purpose

To confirm that the UE establishes an RRC connection after it receives a PAGING TYPE1 message which includes IE ”Paging Record”(UE identity) set to the IMSI of the UE.

8.1.1.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE :Idle state with a CN UE identity (set to IMSI).

Test Procedure

The SS transmits a PAGING TYPE1 message, which includes an unmatched CN UE identity for the UE in the idle state. The UE shall not change its state. The SS transmits a PAGING TYPE1 message, which includes a matched CN UE identity for the UE in the idle state. During transmission of PAGING TYPE 1 messages, SS selects the correct paging indicator on the PICH in order to allow the UE to respond to paging. Then the UE transmits an RRC CONNECTION REQUEST to the SS, the SS transmits an RRC CONNECTION SETUP to the UE. When the UE receives this message, the UE establishes an RRC connection.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 13	Transmit these messages on the BCCH, in addition to the normal BCCH transmissions. See specific message contents.
2		←	PAGING TYPE1	The SS transmits the message, which includes an unmatched identity (incorrect IMSI), then the UE does not change its state.
3		←	PAGING TYPE1	The SS transmits the message, which includes a matched identity (test-SIM IMSI).
4		→	RRC CONNECTION REQUEST	
5		←	RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish an RRC connection.

Specific Message Contents

SYSTEM INFORMATION TYPE13

Information Element	Value/remark
CN domain system information list	Only 1 entry
CN domain system information	
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE CN Type	Supported CN type
- CN domain specific NAS system information	Default
- CN domain specific DRX cycle length coefficient	6
UE Timers and constants in idle mode	
- T300	~~5 sec.~~6000 milliseconds
- N300	3
- T312	10 sec
- N312	200

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to an arbitrary octet string of length 7 bytes which is different from the IMSI value stored in the USIM card.

PAGING TYPE 1 (Step 3)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card

RRC CONNECTION REQUEST (Step 4)

Information Element	Value/remark
Initial UE identity	Same as the IMSI stored in the USIM card, or the registered TMSI or P-TMSI
Establishment Cause	Check to see if it is set to the same value as "Paging Cause" IE in the PAGING TYPE 1 message transmitted on step 3.
Protocol Error Indicator	Check to see if it is set to FALSE
Measured results on RACH	Not checked.

8.1.1.1.5 Test requirement

After step 2 the UE shall not transmit on the uplink CCCH in order to establish a RRC connection.

After step 5 the UE shall have an RRC connection based on dedicated physical channel resources.

8.1.1.2 Paging for Connection in connected mode (CELL_PCH)

8.1.1.2.1 Definition

8.1.1.2.2 Conformance requirement

In CELL_PCH state, a UE can respond to a paging request from UTRAN. In this case, the UTRAN has requested to establish a connection with the UE. The UE should then attempt to perform a cell update procedure and move to CELL_FACH state in order to respond to the paging using uplink CCCH.

Reference

3GPP TS 25.331 clause 8.1.2

8.1.1.2.3 Test purpose

To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE1 message which indicates that the paging has originated from UTRAN. To verify that the UE performs cell update procedure after entering the CELL_FACH state.

8.1.1.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE :CELL_PCH state with a valid U-RNTI already assigned by the SS

Test Procedure

The SS transmits a PAGING TYPE1 message, which includes an unmatched U-RNTI in CELL_PCH state . The UE does not change its state. Then SS transmits a PAGING TYPE 1 message with a matched identifier but originates from the CN instead of UTRAN. The UE should not change state after receiving this message. The SS transmits a PAGING TYPE1 message, which includes a matched U-RNTI in the connected state. Then the UE enters the CELL_FACH state and performs the cell updating procedure.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		SYSTEM INFORMATION BLOCK TYPE 13	Transmit these messages on the BCCH, in addition to the normal BCCH transmissions. See specific message contents
2	←		PAGING TYPE1	The SS transmits a message including an unmatched identifier. UE shall not respond to the paging.
3	←		PAGING TYPE1	The SS transmits a message includes a matched identifier but with the originator being the CN, UE shall not respond to the paging.
4	←		PAGING TYPE 1	The SS transmits the message with the UTRAN being the originator and including the UE's assigned U-RNTI
5	→		CELL UPDATE	The UE enters the CELL_FACH state. UE performs cell updating procedure. The CELL UPDATE message shall contain the value "Cell Update Cause" set to "paging response".

Specific Message Contents

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	Only 1 entry UTRAN originator Set to an arbitrary 16-bit string which is different from the SRNC identity assigned. Set to an arbitrary 20-bit string which is different from the S-RNTI assigned.

PAGING TYPE 1 (Step 3)

Same as the PAGING TYPE 1 message as in Clause 8.1.1.1.4, with the exception that the "BCCH modification info" IE should be omitted in the message.

PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	Only 1 entry CN originator Set to the same SRNC identity as previously assigned. Set to the same S-RNTI as previously assigned.

SYSTEM INFORMATION BLOCK TYPE 12

Same as the SYSTEM INFORMATION BLCOK TYPE 13 message used in Clause 8.1.1.1.3.

8.1.1.2.5 Test requirement

After step 2 the UE shall not respond to the PAGING TYPE 1 message sent in step 2.

After step 3 the UE shall not respond to the PAGING TYPE 1 message sent in step 2.

After step 4 the UE shall enter the CELL FACH state and send a CELL UPDATE message with "Cell Update Cause" IE set to "paging response".

8.1.1.3 Paging for Connection in connected mode(URA_PCH)

8.1.1.3.1 Definition

8.1.1.3.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 1 message from the network to selected UEs in URA_PCH state using the paging control channel (PCCH). The UE listens to it and then enters the CELL_FACH state.

Reference

3GPP TS 25.331 clause 8.1.2

8.1.1.3.3 Test purpose

To confirm that the UE enters the CELL_FACH state after it receives a PAGING TYPE1 message which includes IE ”Paging Record”(U-RNTI) for the UE and which is set to “CN” in IE”paging originator”.

8.1.1.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE :URA_PCH state with a valid U-RNTI assigned by the SS

Test Procedure

The SS transmits a PAGING TYPE1 message, which includes an unmatched U-RNTI in URA_PCH state. The UE does not change its current state. The SS transmits a PAGING TYPE1 message which includes a matched U-RNTI in the connected state. Then the UE listens to it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE1	The SS transmits the message that includes an unmatched identifier, then the UE does not change its state.
2		←	PAGING TYPE1	The SS transmits the message that includes a matched identifier.
3		→	CELL UPDATE	The UE enters the CELL_FACH state.

Specific Message Contents

PAGING TYPE 1 (Step 1)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	Only 1 entry UTRAN originator Set to an unused SRNC identity which is different from the SRNC identity assigned. Set to an arbitrary 20-bit string which is different from the S-RNTI assigned.

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
- CHOICE Paging originator	UTRAN originator
- U-RNTI	
- SRNC Identity	Set to the previously assigned SRNC identity
- S-RNTI	Set to previously assigned S-RNTI

8.1.1.3.5 Test requirement

After step 1 the UE shall not respond to the paging.

After step 2 the UE shall enter the CELL FACH state, and transmit CELL UPDATE message to initiate the cell updating procedure with the paging cause set to “paging response”.

8.1.1.4 Paging for Notification in idle mode

8.1.1.4.1 Definition

8.1.1.4.2 Conformance requirement

When a system information block on the BCCH is modified, the PAGING TYPE 1 message can be sent on the PCCH to inform the UE about the changes, which are currently taking place in the idle mode. The PAGING TYPE 1 message includes the IE"BCCH Modification Information". Upon receiving this notification from the UTRAN, the UE shall read the relevant MIB and/or SIB(s) subsequently during idle mode.

Reference

3GPP TS 25.331 clause 8.1.1.2

8.1.1.4.3 Test purpose

To confirm that the UE checks the new value tag of the master information block and reads the updated SYSTEM INFORMATION BLOCK messages after it receives a PAGING TYPE1 message which includes the IE"BCCH Modification Information".

8.1.1.4.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : Idle state with a CN UE identity .

Test Procedure

The UE is in the idle state before it starts to change the SYSTEM INFORMATION BLOCK TYPE 1 or 13 messages, depending on the CN type supported by the UE. The SS transmits a PAGING TYPE1 message on the paging occasions assigned to the UE. The message shall include the IE" BCCH Modification Information" indicating the time when the first modified master information block is available. Before the starting time, SS continuously broadcast the original MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on the BCCH mapped to BCH transport channel. SS maintains this status until the SFN which corresponds to the starting time is reached. Then it transmits the new master information block followed by the new SYSTEM INFORMATION BLOCK TYPE 1 or 13 messages. In the new SIB TYPE 1 or 13 messages, the IE "DRX Cycle Length Coefficient" is altered when compared to the original SIB TYPE 1 or 13 messages. . At the next paging occasion, SS transmits a new PAGING TYPE 1 message. The message addresses the UE using its IMSI and the "paging cause" IE set to a terminating call type that is supported by the UE. The UE shall react to the PAGING TYPE 1 message and then send a RRC CONNECTION REQUEST message to SS.

Notes: For UEs supporting GSM-MAP CN type only, SYSTEM INFORMATION TYPE 1 messages are to be sent by SS in this test case. On the other hand, SS transmits SYSTEM INFORMATION TYPE 13 messages if the UE under test supports only ANSI-41 CN type

.Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 or SYSTEM INFORMATION BLOCK TYPE 13	SS transmits information on BCCH in order for UE to listen to one of the S-CCPCH physical channel, which carries PAGING TYPE 1 or 13 messages on PCCH. Relevant paging parameters are also broadcasted.
2		←	PAGING TYPE 1	SS transmits the message includes the IE"BCCH Modification Information", with the "Value Tag" changed from the "MIB Value Tag" of the current Master Information Block. Also the modification time is set to 4088 radio frame from the current SFN. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH for a period stretching 4087 frames.
3		← ←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 or SYSTEM INFORMATION BLOCK TYPE 13	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting. At the same time, SS starts to transmit the affected SIB TYPE 1 or TYPE 13 messages continuously. The value of IE "DRx Cycle Length Coefficient" is changed in this message. SS starts to monitor the uplink RACH after approximately 4087 frames from step 2.
4		←	PAGING TYPE 1	SS starts to transmit this message continuously on the PCCH according to the new value of "DRx Cycle Length Coefficient", at the next paging occasion immediately following step 3.
5		→	RRC CONNECTION REQUEST	UE transmits a request due to answer to the PAGING TYPE 1 received in step 4. The IE "Establishment Cause" should be set to "Terminating Call" supported by the UE and the "Initial UE Identity" set to UE's IMSI.
6		←	RRC CONNECTION REJECT	UE shall return to idle mode after receiving this message

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 1 (Step 1) – for UEs supporting GSM-MAP core networks

Information Element	Value/remark
References to other system information blocks	Not Present
CN common GSM-MAP NAS system information	Location Area Information (LAI)
CN domain system information list	Supports both CS and PS domains
- CN domain system information	
- CN domain identity	CS domain
- CHOICE CN Type	GSM-MAP
- CN domain specific NAS system information	Set to the same octet string as in IE"CN common GSM MAP-NAS system information"
- CN domain specific DRX cycle length coefficient	12
- CN domain system information	
- CN domain identity	PS domain
- CHOICE CN Type	GSM-MAP
- CN domain specific NAS system information	Set to the same octet string as in IE"CN common GSM MAP-NAS system information"
- CN domain specific DRX cycle length coefficient	12
UE Timers and constants in idle mode	
- T300	~~Default~~400 milliseconds
- N300	~~Default~~7
- T312	~~Default~~10 seconds
- N312	~~Default~~200
UE Timers and constants in connected mode	Not Present

SYSTEM INFORMATION BLOCK TYPE 13 (Step 1) – for UEs supporting ANSI-41 core networks

Information Element	Value/remark
References to other system information blocks	Not Present
CN domain system information list	Supports both CS and PS domains
CN domain system information	
- CN domain identity	CS
- CHOICE CN Type	ANSI-41
- CN domain specific NAS system information	
- ANSI-41 NAS System Information	
- ANSI-41 NAS Parameter	Set to an ANSI-41 user zone information
- CN domain specific DRX cycle length coefficient	12
- CN domain identity	PS
- CHOICE CN Type	ANSI-41
- CN domain specific NAS system information	
- ANSI-41 NAS System Information	
- ANSI-41 NAS Parameter	Set to an ANSI-41 user zone information
- CN domain specific DRX cycle length coefficient	12
UE Capability update requirement	Not Present

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
- CHOICE Paging originator	UTRAN originator
- U-RNTI	
- SRNC Identity	Arbitrarily selecte a SRNC identity which is different from current identity
- S-RNTI Identity	Arbitrarily selecte a S-RNTI identity which is different from current identity
BCCH modification info	
MIB Value Tag	2
BCCH Modification time	4088

MASTER INFORMATION BLOCK (Step 3)

Information Element	Value/remark
MIB Value tag	2

SYSTEM INFORMATION BLOCK TYPE 1 (Step 3) – for UEs supporting GSM-MAP core networks

Information Element	Value/remark
References to other system information blocks	Not Present
CN common GSM-MAP NAS system information	Location Area Information (LAI)
CN domain system information list	Supports both CS and PS domains
- CN domain system information	
- CN domain identity	CS domain
- CHOICE CN Type	GSM-MAP
- CN domain specific NAS system information	Set to the same octet string as in IE"CN common GSM MAP-NAS system information"
- CN domain specific DRX cycle length coefficient	6
- CN domain system information	
- CN domain identity	PS domain
- CHOICE CN Type	GSM-MAP
- CN domain specific NAS system information	Set to the same octet string as in IE"CN common GSM MAP-NAS system information"
- CN domain specific DRX cycle length coefficient	6
UE Timers and constants in idle mode	
- T300	~~Default~~400 milliseconds
- N300	~~Default~~7
- T312	~~Default~~10 seconds
- N312	~~Default~~200
UE Timers and constants in connected mode	Not Present

SYSTEM INFORMATION BLOCK TYPE 13 (Step 3) – for UEs supporting ANSI-41 core networks

Information Element	Value/remark
References to other system information blocks	Not Present
CN domain system information list	Supports both CS and PS domains
CN domain system information	
- CN domain identity	CS domain
- CHOICE CN Type	ANSI-41
- CN domain specific NAS system information	
- ANSI-41 NAS system information	
- ANSI-41 NAS Parameter	Set to an ANSI-41 user zone information
- CN domain specific DRX cycle length coefficient	6
- CN domain identity	PS domain
- CHOICE CN Type	ANSI-41
- CN domain specific NAS system information	
- ANSI-41 NAS system information	
- ANSI-41 NAS Parameter	Set to an ANSI-41 user zone information
- CN domain specific DRX cycle length coefficient	6

PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - Paging Cause - CN Domain Identity - CHOICE UE Identity - IMSI	Only 1 entry CN originator Terminating Call with one of the supported service (Conversation Call, Streaming Call, Interactive Call, Background Call, SMS) CS Domain IMSI Set to the same octet string as in the IMSI value stored in the USIM card

RRC CONNECTION REJECT (Step 6)

Information Element	Value/remark
Initial UE identity - CHOICE UE id type - IMSI Rejection cause Wait time Redirection info	 IMSI Set to the same octet string as in the IMSI value stored in the USIM card Unspecified 0 Not Present

8.1.1.4.5 Test requirement

After step 5 the UE shall transmit RRC CONNECTION REQUEST message in response to the PAGING TYPE 1 messages sent starting from step 4.

8.1.1.5 Paging for Notification in connected mode (CELL_PCH)

8.1.1.5.1 Definition

8.1.1.5.2 Conformance requirement

When a system information block on the BCCH is modified, the message PAGING TYPE1 can be sent on the PCCH to inform the UE about this change in the CELL_PCH state. This message includes the IE"BCCH Modification Information". Upon receiving this notification from the UTRAN, the UE shall read the relevant MIB and/or SIB(s) subsequently while in CELL_PCH state.

Reference

3GPP TS 25.331 clause 8.1.1.2

8.1.1.5.3 Test purpose

To confirm that the UE enters the CELL_FACH state, checks the new value tag of the master information block, and read the SYSTEM INFORMATION messages after it receives a PAGING TYPE1 message which includes the IE"BCCH Modification Information"

8.1.1.5.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_PCH state with valid a U-RNTI assigned to it.

Test Procedure

Identical test steps 1 to 5 in Clause 8.1.1.4 are applied to this test. However, the PAGING TYPE 1 messages used in step 2 and step 4 are altered. The changes are indicated in the specific message content paragraph under this clause. At step 6, UE shall send the CELL UPDATE message indicating the "cell update cause" to be "paging response". SS then replies with a CELL UPDATE CONFIRM message to allow the UE to transit to CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 or SYSTEM INFORMATION BLOCK TYPE 13	SS transmits information on BCCH in order for UE to listen to one of the S-CCPCH physical channel, which carries PAGING TYPE 1 or 13 messages on PCCH. Relevant paging parameters are also broadcasted.
2	←		PAGING TYPE 1	SS transmits the paging message which comprises IE"BCCH Modification Information", with the "Value Tag" changed from the "MIB Value Tag" of the current Master Information Block. Also the modification time is set to 4088 radio frame from the current SFN. SS continuously broadcast the same MASTER INFORMATION BLOCK and various types of SYSTEM INFORMATION BLOCK on BCCH for a period stretching 4087 frames.
3	← ←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 1 or SYSTEM INFORMATION BLOCK TYPE 13	SS starts to transmit the MIB with the "MIB Value Tag" IE different from the original setting. At the same time, SS starts to transmit the affected SIB TYPE 1 or TYPE 13 messages continuously. The value of IE "DRx Cycle Length Coefficient" is changed in this message. SS starts to monitor the uplink RACH after approximately 4087 SFN from step 2.
4	←		PAGING TYPE 1	SS transmits this message continuously on the PCCH according to the new value of "DRx Cycle Length Coefficient", at the next paging occasion immediately following step 3. This message shall page the UE with its U-RNTI and setting the UTRAN as the paging originator.
5	→		CELL UPDATE	The IE "Cell Update Cause" should be set to "Paging Response" and the IE "U-RNTI" shall be similar to the UE's U-RNTI value. The "Protocol Error Indicator" IE shall be set to FALSE.
6	←		CELL UPDATE CONFIRM	UE shall transit to CELL_FACH state after receiving this message.

Specific Message Contents

SYSTEM INFORMATION BLOCK TYPE 1 or TYPE 13 (Step 1)

The content of this message is the same in the message used in step 1 specified in Clause 8.1.1.4.3.

PAGING TYPE 1 (Step 2)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI BCCH modification info - MIB Value Tag - BCCH Modification time	Only 1 entry UTRAN originator Set to a different string from currently allocated SRNC identity Set to an arbitrary 20-bits string 2 4088

MASTER INFORMATION BLOCK (Step 3) and

SYSTEM INFORMATION BLOCK TYPE 1 or TYPE 13 (Step 3)

The content of these messages is the same in the message used in step 3 specified in Clause 8.1.1.4.4.

PAGING TYPE 1 (Step 4)

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI BCCH modification info	Only 1 entry UTRAN originator Equal to the U-RNTI assigned earlier. Same as the current SRNC allocated Same as the current S-RNTI allocated Not Present

CELL UPDATE CONFIRM (Step 6)

Information Element	Value/remark
DRX Indicator	DRx with Cell Updating

8.1.1.5.5 Test requirement

After step 5 the UE shall transmit a CELL UPDATE message with “cell update cause” IE set to “paging response”. Upon receiving CELL UPDATE CONFIRM message, the UE shall enter the CELL_FACH state.

8.1.1.6 Paging for Notification in connected mode (URA_PCH)

8.1.1.6.1 Definition

8.1.1.6.2 Conformance requirement

When a system information block on the BCCH is modified, the UTRAN can send a PAGING TYPE 1 message on the PCCH to inform UE about the changes while the UE is in the URA_PCH state. This message includes the IE”BCCH Modification Information”. When receiving this message in URA_PCH state, the UE shall read the relevant MIB and/or SIB(s).

Reference

3GPP TS 25.331 clause 8.1.1.2

8.1.1.6.3 Test purpose

To confirm that the UE enters the CELL_FACH state, checks the included new value tag of the master information block and reads the relevant SYSTEM INFORMATION block(s) after it receives a PAGING TYPE 1 message which includes the IE”BCCH Modification Information”.

8.1.1.6.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : URA_PCH state with a valid U-RNTI assigned.

Test Procedure

The UE is in the URA_PCH state before the SS starts changing SYSTEM INFORMATION BLOCK messages. SS modifies its SYSTEM INFORMATION and updates the “value tag” of both the SYSTEM INFORMATION BLOCK TYPE 1 and of the MASTER INFORMATION BLOCK. After a while, the SS transmits a PAGING TYPE 1 message, which includes the IE” BCCH Modification Information”. The UE enters the CELL_FACH state and reads the modified SYSTEM INFORMATION BLOCK. The UE shall act according to the modified message. In this testcase, the UE shall adjust it paging occasions and read the new PCCH blocks newly assigned to it under DRX mode.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION	The SS changes the SYSTEM INFORMATION when the UE is in the connected state (URA_PCH).
2		←	PAGING TYPE 1	SS transmits the message includes the IE”BCCH Modification Information”.
3				The UE enters the CELL_FACH state and reads the SYSTEM INFORMATION and then the UE follows this message.

Specific Message Contents

None

8.1.1.6.5 Test requirement

After step 2 the UE shall enter the CELL_FACH state and read the SYSTEM INFORMATION message and follow it.

8.1.1.7 Paging for Connection in connected mode (CELL_DCH)

8.1.1.7.1 Definition

8.1.1.7.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 2 message from the network to selected UEs in CELL_DCH state using the dedicated control channel (DCCH). The UE listens to it and responds to this message accordingly.

Reference

3GPP TS 25.331 clause 8.1.9

8.1.1.7.3 Test purpose

To confirm that the UE responds this message after it receives a PAGING TYPE2 message which includes IE ”Paging Record Type Identifier” for the UE.

8.1.1.7.4 Method of test

Initial Condition

System Simulator : 1 cell.

UE : CELL_DCH state, but neither a valid TMSI nor P-TMSI is assigned to the UE

Test Procedure

The SS transmits a PAGING TYPE 2 message which includes a unmatched Paging Record Type Identifier in CELL_DCH state. The UE shall not respond to this message. SS pages the UE again, this time with a matched Paging Record Type Identifier but with the IE"paging cause" set to one of the spare values. UE shall respond by transmitting a RRC STATUS message on the DCCH using RLC-AM mode. Finally, SS transmits a PAGING TYPE 2 message, which includes a matched Paging Record Type Identifier. Then the UE shall responds to this message by the transmission of an upper layer message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE 2	The SS transmits the message includes an unmatched identifier, then the UE does not respond.
2		←	PAGING TYPE 2	The SS transmits the message includes a matched identifier. In the paging message, IE"paging cause" is set to one of the spare values.
3		→	RRC STATUS	The UE shall respond by reporting the protocol error to the SS.
4		←	PAGING TYPE 2	SS pages the UE with a matched identifier and with a valid "paging cause" IE.
5		→	UPLINK DIRECT TRANSFER	The UE shall respond to the paging message sent in step 4.

Specific Message Contents

PAGING TYPE 2 (Step 1)

Information Element	Value/remark
Paging cause CN domain identity Paging Record Type Identifier	Terminating Call supported by the UE Domain supported by the UE Set to "TMSI" or "P-TMSI"

PAGING TYPE 2 (Step 2)

Information Element	Value/remark
Paging cause CN domain identity Paging Record Type Identifier	Use one of the spare values Domain supported by the UE Set to "IMSI (GSM-MAP)" for UEs supporting GSM-MAP core network type or "IMSI (DS-41)" for UEs supporting ANSI-41 core network type.

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol error information	Checked to see if set to "Information element value not comprehended"

PAGING TYPE 2 (Step 4)

Information Element	Values/Remarks
Paging cause CN domain identity Paging Record Type Identifier	Terminating Call supported by the UE Domain supported by the UE Set to “IMSI (GSM-MAP)” for UEs supporting GSM-MAP core network type or “IMSI (DS-41)” for UEs supporting ANSI-41 core network type.

UPLINK DIRECT TRANSFER (Step 5)

Only the message type IE for this message is checked.

8.1.1.7.5 Test requirement

After step 1 the UE shall not respond to the paging message on the DCCH.

After step 2 the UE shall respond to the paging message by transmitting RRC STATUS on the DCCH, stating the protocol error as “Information element value not comprehended”.

After step 4 the UE shall respond to the paging message by transmitting a UPLINK DIRECT TRANSFER message on the uplink DCCH.

8.1.1.8 Paging for Connection in connected mode (CELL_FACH)

8.1.1.8.1 Definition

8.1.1.8.2 Conformance requirement

This procedure is used to transmit a PAGING TYPE 2 message from the network to selected UEs in CELL_FACH state using the dedicated control channel (DCCH). The UE shall listen to it and responds to this message accordingly.

Reference

3GPP TS 25.331 clause 8.1.9

8.1.1.8.3 Test purpose

To confirm that the UE responds to a PAGING TYPE 2 message, which includes a matching value for IE ”Paging Record Type Identifier”.

8.1.1.8.4 Method of test

Initial Condition

System Simulator : 1 cell

UE :CELL_FACH state.

Test Procedure

The SS transmits a PAGING TYPE 2 message, which includes an unmatched Paging Record Type Identifier in CELL_FACH state. The UE shall not respond to this message. The SS transmits a PAGING TYPE2 message, which includes a matched Paging Record Type Identifier. Then the UE shall respond by transmitting an upper layer message to answer this page.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE2	The SS transmits the message includes a unmatched identifier, then the UE does not respond.
2		←	PAGING TYPE2	The SS transmits the message includes a matched identifier.
3				The UE responds by sending an upper layer message.

Specific Message Content

PAGING TYPE 2 (Step 1)

Use the same message content as in step 1 from 8.1.1.7.4

PAGING TYPE 2 (Step 2)

Use the same message content as in step 4 from 8.1.1.7.4

8.1.1.8.5 Test requirement

After step 1 the UE shall not respond.

After step 2 the UE shall respond.

8.1.2 RRC Connection Establishment

8.1.2.1 RRC Connection Establishment in CELL_DCH state: Success

8.1.2.1.1 Definition

8.1.2.1.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE"Initial UE identity" and is to be transmitted on the uplink CCCH.
2. After the UE receives an RRC CONNECTION SETUP message which includes the same value of the IE" Initial UE identity" ,radio resource parameters(i.e. Signalling link type and multiplexing info) and U-RNTI The UE then configures the layer 2 and layer 1 processing so as to support the DCCH according to the radio resource parameters specified. The procedure successfully ends when the network receives an RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.1.3 Test purpose

To confirm that the UE leaves the Idle Mode and correctly establishes a signalling link on the DCCH.

8.1.2.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: Idle state

Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by attempting to make an outgoing call . After SS receives this message, it assigns the necessary radio resources and U-RNTI to be used by the UE and then transmits an RRC CONNECTION SETUP message to the UE within timer T300. SS then waits for the UE to transmit an RRC CONNECTION SETUP COMPLETE message on the DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		→	RRC CONNECTION REQUEST	By outgoing call operation
2		←	RRC CONNECTION SETUP	This message is not addressed to the UE.
3		→	RRC CONNECTION REQUEST	UE shall re-transmit the request message again after receiving a setup message not addressed to itself.
4		←	RRC CONNECTION SETUP	
5				The UE configures the layer 2 and layer 1 .
6		→	RRC CONNECTION SETUP COMPLETE	

Specific Message Content

RRC CONNECTION SETUP (Step 2):

Information Element	Value/remark
Initial UE Identity CHOICE UE id type IMSI	 IMSI Set to an arbitrary octet string of length 7 which different from the IMSI value stored in the USMI card.

8.1.2.1.5 Test requirement

After step 2 the UE shall re-transmit the RRC CONNECTION REQUEST message again in order to continue the RRC connection establishment procedure.

After step6 the UE shall establish an RRC connection and continue the procedure of the outgoing call on the DCCH.

8.1.2.2 RRC Connection Establishment: Success after T300 timeout

8.1.2.2.1 Definition

8.1.2.2.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode. The UE shall transmit an RRC CONNECTION REQUEST message which includes the IE"Initial UE identity". This message shall be sent on the uplink CCCH.

2. In the case of a failure to establish the RRC connection at the expiry of timer T300 ,the UE retries to establish the RRC connection until V300 is greater than N300.

When the UE receives a RRC CONNECTION SETUP message, which contains a protocol error and causing the internal variable PROTOCOL_ERROR_REJECT set to TRUE, it shall perform the appropriate error handling procedure.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.2.3 Test purpose

To confirm that the UE retries to establish the RRC connection until V300 is greater than N300 after the expiry of timer T300 when the SS transmits no response for an RRC CONNECTION REQUEST message.

8.1.2.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: Idle state

Test Procedure

Before the test starts, an internal counter K in SS is initialized to a value = 1. Following this, the UE shall transmit an RRC CONNECTION REQUEST message to the SS on the uplink CCCH, after the operator attempts to make an outgoing call. SS ignores this message, increments K every time such a message is received and waits for T300 timer to expire. This cycle is repeated until K reaches N300. When K is equal to N300, the SS transmits the RRC CONNECTION SETUP message specified in step 5 to the UE and wait until T300 expires. The UE shall send another RRC CONNECTION REQUEST message on the uplink CCCH. SS verifies that the UE does not access the radio resource allocated in step 5. After confirming this restriction is observed, SS replies with a valid RRC CONNECTION SETUP message. The UE shall then acknowledge the establishment of RRC connection by sending the RRC CONNECTION SETUP COMPLETE messsage on uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS initializes counter K to 1 . Operator is asked to make an outgoing call and SS starts to wait for RRC CONNECTION REQUEST on uplink CCCH.
2	→		RRC CONNECTION REQUEST	
3				SS checks to see if K is equal to N300. If so, goes to step 5. Else, continues to execute step 4.
4				SS increments K.The next step is step 2.
5	←		RRC CONNECTION SETUP	The message contains a protocol error, see specific message content. SS waits for T300 to expire again.
6	→		RRC CONNECTION REQUEST	UE shall not access the radio resource indicated in RRC CONNECTION SETUP message sent in step 5.
7	←		RRC CONNECTION SETUP	This is a legal message. See the clause 6.1 in TS 34.108 on default message content for RRC.
8				The UE configures the layer 2.
9	→		RRC CONNECTION SETUP COMPLETE	

Specific Message Contents

RRC CONNECTION SETUP (Step5)

Information Element	Value/remark
Uplink Radio Resource CHOICE *channel requirement*	Neither PRACH Info (for RACH) nor Uplink DPCH info is chosen. One of the spare value is used.

8.1.2.2.5 Test requirement

After step 5 the UE shall re-send another RRC CONNECTION REQUEST message and not access any radio resources specified in RRC CONNECTION SETUP message sent in step 5.

After step 8 the UE shall transmit an RRC CONNECTION SETUP COMPLETE message and establish an RRC connection on the DCCH logical channel.

8.1.2.3 RRC Connection Establishment: Failure (V300 is greater than N300)

8.1.2.3.1 Definition

8.1.2.3.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message. This message shall include the IE"Initial UE identity" on the uplink CCCH.
2. In the case of a failure to establish the RRC connection after (N300+1) attempts, the UE goes back to idle mode.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.3.3 Test purpose

To confirm that the UE stops retrying to establish the RRC connection if V300 is greater than N300 and goes back to idle mode.

8.1.2.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: Idle state

Test Procedure

Before the test starts, SS initializes an internal counter K to 1. The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by an outgoing call operation. SS shall not respond to any RRC CONNECTION REQUEST message, instead the counter K is increased by 1 every time such a message is received. To arrive at the verdict, the SS checks that a total of (N300+1) such messages are received.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS initializes counter K to 1and then prompts the operator to make an outgoing call.
2	→		RRC CONNECTION REQUEST	
3				SS increments K by 1.
4				If K is greater than N300, goes to step 5 else proceed to step 2.
5				SS monitor the uplink CCCH for a time period enough for UE to goes back to normal service. The exact amount of time to wait shall be derived from TS related to cell selection. If any uplink transmission is detected, the test fails.

Specific Message Contents

None

8.1.2.3.5 Test requirement

?After step 5, counter K shall be equals to (N300+1) and there shall be no uplink transmission in the monitoring period specified in step 5.

8.1.2.4 RRC Connection Establishment: Reject (“wait time” is not equal to 0)

8.1.2.4.1 Definition

8.1.2.4.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message . This message shall include the IE”Initial UE identity” and is to be sent on the uplink CCCH.

2. After the UE receives an RRC CONNECTION REJECT message which includes IE”wait time” not set to 0, and neither IE“frequency info” nor IE“system info” is present, the UE shall wait for a period specified in the IE“wait time”.Thereafter re-transmit an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again. However, either IE“frequency info” or IE”system info” is available in the message, the UE shall attempt to perform cell reselection using these information.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.4.3 Test purpose

To confirm that the UE retries to establish the RRC connection after the “wait time” if the UE receives an RRC CONNECTION REJECT message which includes the IE”wait time” not set to 0.

To confirm that the UE perform a cell reselection when receiving an RRC CONNECTION REJECT message, containing relevant frequency information of the target cell to be re-selected.

8.1.2.4.4 Method of test

Initial Condition

System Simulator : 2 cells – both cell 1 and cell 2 are active and suitable for camping, but cell 1 is transmitted using a larger power. Cell 1 and cell 2 are being transmitted from different 2 UARFCNs.

UE: Idle state

Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by an outgoing call operation in cell 1. SS rejects the first request by transmitting an RRC CONNECTION REJECT message which indicates a non-zero wait time. In this message, frequency information for cell 2 is available. SS then waits for RRC CONNECTION REQUEST message on the uplink CCCH of cell 2. SS will also monitor the uplink of cell 1 simultaneously to ensure that all transmission activities from cell 1 have ceased. When the UE has successfully camp onto cell 2, it shall send an RRC CONNECTION REQUEST with the same establishment cause as its previous attempt in cell 1. SS responds with an RRC CONNECTION REJECT message, indicating a non-zero "wait time" and omitting the IE"Redirection Info". The UE shall observe the wait time period indicated. After the wait time has elapsed, the UE shall re-transmit RRC CONNECTION REEQUEST again. Finally, SS transmits an RRC CONNECTION SETUP message to establish an RRC connection with the UE, and the UE replies with an RRC CONNECTION SETUP COMPLETE message and enters CELL_DCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		→	RRC CONNECTION REQUEST	SS prompts the operator to make an outgoing call in cell 1.
2		←	RRC CONNECTION REJECT	This message shall includes the IE"wait time" set to 15 seconds and IE"frequency info" set to the UARFCN of cell 2.
3				SS waits for a period of time sufficient for UE to reselect to cell 2. At the same time, it monitor the uplink of cell 1 to make sure that all transmissions have ceased.
4		→	RRC CONNECTION REQUEST	UE shall attempt to re-start an RRC connection establishment procedure in cell 2. The establishment cause shall remained unchanged.
5		←	RRC CONNECTION REJECT	This message shall includes the IE"wait time" set to 15 seconds, but with IE"Redirection Info" absent.
6		→	RRC CONNECTION REQUEST	SS waits until the duration specified in IE"wait time" has elapsed and then listens to the uplink CCCH for a second RRC CONNECTION REQUEST message.
7		←	RRC CONNECTION SETUP	SS sends the message to UE, to setup an RRC connection with the UE.
8				The UE shall configure the layer 2 and layer 1 in order to access the uplink and downlink DCCH assigned..
9		→	RRC CONNECTION SETUP COMPLETE	

Specific Message Contents

RRC CONNECTION REQUEST (Step1)

Information Element	Value/remark
Initial UE Identity	Must be equal to U-RNTI assigned preeviously
Initial UE Capability	Must be compatible with UE settings in TS25.926
Establishment Cause	Must be "Originating Call"

RRC CONNECTION REJECT (Step2)

Information Element	Value/remark
Wait time	15 seconds
Redirection Info	
Frequency Info	
UARFCN uplink (Nu)	Set to a different UARFCN from uplink carrier of cell 1
UARFCN uplink (Nd)	Not present – assuming a duplex distance of 190MHz.

RRC CONNECTION REQUEST (Step4 and step6)

Same requirement as in step 1.

RRC CONNECTION REJECT (Step5)

Information Element	Value/remark
Wait time Redirection Info	15 seconds Not present

8.1.2.4.5 Test requirement

After step 3 the UE shall have successfully re-selected to cell 2, using information transmitted in IE"frequency info" of RRC CONNECTION REJECT message. UE shall trigger the start of RRC connection establishment by transmitting RRC CONNECTION REQUEST. The establishment cause shall be similar to the message sent in step 1.

After step 5 the UE shall observe the period specified in IE"wait time" of an RRC CONNECTION REJECT message and not transmit an RRC CONNECTION REQUEST message in this period.

After step7 the UE shall transmsit an RRC CONNECTION SETUP COMPLETE message to SS on uplink DCCH and then establish an RRC connection.

8.1.2.5 RRC Connection Establishment: Reject ("wait time" is not equal to 0 and V300 is greater than N300)

8.1.2.5.1 Definition

8.1.2.5.2 Conformance requirement

The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message . This message shall include the IE"Initial UE identity" and is to be sent on the uplink CCCH.

2. After the UE receives an RRC CONNECTION REJECT message which includes IE"wait time" not set to 0, and neither IE"frequency info" nor IE"system info" is present, the UE shall wait for a period specified in the IE"wait time".Thereafter it re-transmits an RRC CONNECTION REQUEST message to attempt to establish the RRC connection again. In the case of a failure to establish the RRC connection after (N300+1) attempts, the UE goes back to idle mode.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.5.3 Test purpose

To confirm that the UE retries to establish the RRC connection after the "wait time" if the UE receives an RRC CONNECTION REJECT message which specifies a non-zero IE "wait time".

To confirm that the UE stops retrying to establish the RRC connection if V300 is greater than N300 and goes back to idle mode.

8.1.2.5.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: Idle state

Test Procedure

Before the test starts, SS initializes an internal counter K to 0. The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH, triggered by an outgoing data call operation. SS rejects all requests by transmitting an RRC CONNECTION REJECT message which indicates a non-zero wait time and the counter K is increased by 1 every time such a message is received. To arrive at the verdict, the SS checks that a total of (N300+1) such messages are received.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS initializes counter K to 0 and then prompts the operator to make an outgoing data call.
2	→		RRC CONNECTION REQUEST	Shall be sent on CCCH and contain the correct establishment cause.
3	←		RRC CONNECTION REJECT	This message includes the IE"wait time" set to 15 seconds.
4				SS increments K by 1.
5				If K is greater than N300, goes to step 6. Else SS waits for 15 sec before proceeding to step 2.
6				SS monitor the uplink CCCH for a time period enough for UE to goes back to normal service. The exact amount of time to wait shall be derived from TS related to cell selection. If any uplink transmission is detected, the test fails.

Specific Message Contents

RRC CONNECTION REQUEST (Step2)

Information Element	Value/remark
Initial UE Identity	Must be equal to U-RNTI assigned previously
Initial UE Capability	Must be compatible with UE settings in TR25.926
Establishment Cause	Must be "Originating CS Data Call" or "Originating PS Data Call"

RRC CONNECTION REJECT (Step3)

Information Element	Value/remark
Wait time	15 seconds

8.1.2.5.5 Test requirement

After step 6, counter K shall be equals to (N300+1) and there shall be no uplink transmission in the monitoring period specified in step 6.

8.1.2.6 RRC Connection Establishment: Reject ("wait time" is set to 0)

8.1.2.6.1 Definition

8.1.2.6.2 Conformance requirement

1. The RRC connection establishment is initiated by the UE, which leaves the idle mode and transmits an RRC CONNECTION REQUEST message on the uplink CCCH.
2. In the case of a failure to establish the RRC connection by the reception of a RRC CONNECTION REJECT message which contains IE"wait time" equals to 0 , the UE shall go back to idle mode immediately.

Reference

3GPP TS 25.331 clause 8.1.3

8.1.2.6.3 Test purpose

To confirm that the UE goes back to idle mode, if the SS transmits an RRC CONNECTION REJECT message which includes IE"wait time" set to 0. To confirm that the UE ignores an RRC CONNECT REJECT message not addressed to it. To confirm that the UE is capable of handling an erroneous RRC CONNECTION REJECT message correctly.

8.1.2.6.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : Idle state

Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by making an outgoing call . After the SS receives this message, it transmits an RRC CONNECTION REJECT message which is not addressed to the UE. The UE shall disregard this message and proceed to re-transmit RRC CONNECTION REQUES message upon T300 timer expiry. SS answers the second RRC CONNECTION REQUEST message by transmitting an RRC CONNECTION REJECT message with IE"wait time" set to 15 seconds, but without the mandatory IE"rejection cause". The UE shall continue to send the third RRC CONNECTION REQUEST message after a 15 second lapse. Next, the SS sends a legal RRC CONNECTION REJECT message which is expected to cause the UE to move to idle mode spontaneously. To confirm that finally the UE goes back to idle mode immediately after receiving the reject message, SS shall monitor the uplink CCCH for the next 60 second and verify that there is no further transmission in the uplink direction.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		RRC CONNECTION REQUEST	Test operator is prompted to make an out-going call,
2	←		RRC CONNECTION REJECT	IE“Initial UE identity” contains an identity different from any of the UE identities available.
3	→		RRC CONNECTION REQUEST	UE shall continue to send this message after T300 time-out.
4	←		RRC CONNECTION REJECT	IE“Reject Cause” is omitted, IE”wait time” is set to 15 seconds (maximum).
5	→		RRC CONNECTION REQUEST	UE shall continue to send this message after T300 time-out, but before the expiry of “wait time” IE indicated in RRC CONNECTION REJECT message in step 4.
6	←		RRC CONNECTION REJECT	IE”wait time” is set to 0.
7				The UE goes back to idle mode..

Specific Message Contents

RRC CONNECTION REJECT (Step2)

Information Element	Value/remark
Initial UE Identity IMSI Wait time Redirection Info	 Set to an arbitrary octet string of length 7 bytes, which is different from the IMSI stored in USIM. 15 seconds Not present

RRC CONNECTION REJECT (Step4)

Information Element	Value/remark
Initial UE Identity IMSI Reject Cause Wait time Redirection Info	 Set to the identical octet string as the IMSI stored in the USIM card. Not Present 15 seconds (Maximum) Not Present

RRC CONNECTION REJECT (Step6)

Information Element	Value/remark
Initial UE Identity IMSI Reject Cause Wait time Redirection Info	 Set to the identical octet string as the IMSI stored in the USIM card. Congestion 0 second Not present

Note: T300 is set to 5 seconds and N300 is arbitrarily selected from 4 to 8 in SYSTEM INFORMATION BLOCK TYPE 1 message on BCCH.

8.1.2.6.5 Test requirement

After step 2 and step 4 the UE shall continue to re-transmit an RRC CONNECTION REQUEST message on uplink CCCH, at an interval of 5 seconds (T300).

After step6 the UE shall stop sending an RRC CONNECTION REQUEST message, go back to idle mode immediately and not transmit in the uplink direction again.

8.1.2.7 RRC Connection Establishment in CELL_FACH state: Success

8.1.2.7.1 Definition

8.1.2.7.2 Conformance requirement

During the RRC connection establishment, the UTRAN might assign common physical resource to the UE using an RRC CONNECTION SETUP message. When no information about the physical channels accessible are available from the message, the UE shall utilize the PRACH and S-CCPCH information transmitted on the BCCH and then enter the CELL_FACH. Subsequently, the UE shall establish the required signalling links with the UTRAN using common physical resources.

Reference

3GPP TS25.331 clause 8.1.3

8.1.2.7.3 Test Purpose

To confirm that the UE is able to enter CELL_FACH state and setup signalling links using common physical channels.

8.1.2.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: Idle state

Test Procedure

The UE transmits an RRC CONNECTION REQUEST message to the SS on the uplink CCCH by attempting to make an outgoing call. After the SS receives this message, it assigns the necessary radio resources and U-RNTI to be used by the UE, and then transmits an RRC CONNECTION SETUP message to the UE within timer T300. SS then waits for the UE to transmit an RRC CONNECTION SETUP COMPLETE message on the DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		→	RRC CONNECTION REQUEST	Test operator is requested to make an outgoing call. The UE shall transmit this message, indicating the correct establishment cause.
2		←	RRC CONNECTION SETUP	SS omits both IE"Uplink DPCH Info" and IE"Downlink DPCH Info" from the message.
3				The UE shall configure the layer 2 and layer 1.
4		→	RRC CONNECTION SETUP COMPLETE	UE shall send this message on the DCCH, carried by the assigned PRACH resources.

Specific Message Content

RRC CONNECTION REQUEST

Information Element	Value/remark
Establishment Cause	Originating PS Data Call

RRC CONNECTION SETUP

For this message, the contents of the message to be used are basically identical to the message sub-type entitled "RRC CONNECTION SETUP message (Transition to CELL_FACH)" found in the default message content part. The following exceptions are applicable in this test:

Information Element	Value/remark
Uplink DPCH Info	Not Present
Downlink information common for all radio links	Not Present
Downlink information per radio link list	Not Present

RRC CONNECTION SETUP COMPLETE

Information Element	Value/remark
UE Radio Access Capability	Checked to see if compatible with the stated capability in PIXIT/PICS statements.

8.1.2.7.5 Test requirements

After step 3 the UE shall establish the RRC connection, and transmit RRC CONNECTION SETUP COMPLETE message on the DCCH using PRACH physical resource specified in system information block messages.

8.1.2.8 RRC Connection Establishment : Invalid system information message reception

8.1.2.8.1 Definition

8.1.2.8.2 Conformance requirement

The UE shall ignore the message and shall not select the cell, if the associated a SYSTEM INFORMATION message on the BCCH which includes the unknown value in the mandatory information element which criticality is set to “reject” in the master information block is broadcasting.

Reference

3GPP TS 25.331 clause 8.1.1 clause 16

8.1.2.8.3 Test purpose

To confirm that the UE does not select the cell if the transmitted SYSTEM INFORMATION message on the BCCH which includes the unknown value in the mandatory information element whose criticality is set to “reject” value in the master information block is broadcasting

8.1.2.8.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : Power off

Test Procedure

The SS broadcasts the SYSEM INFORMATION message on the BCCH which includes the PLMN Type information element having “spare value” in the master information block. When the UE is supplied the power, it finds that the SYSTEM INFORMATION message on the BCCH includes the unknown value in the mandatory information element and the UE shall ignore this message. When an outgoing call is attempted, the test operator shall be informed that the UE is in a “No Service” state. The UE shall not transmit an RRC CONNECTION REQUEST message on the uplink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		SYSTEM INFORMATION	The SS broadcasts the SYSTEM INFORMATION message on the BCCH which includes an unknown value in the mandatory information element whose criticality is set to “reject” in the master information block.
2				The UE is supplied the power.
3				SS waits for 1 minute and then asks the test operator to attempt to make an outgoing call.
4				SS checks that no uplink transmission on CCCH is detected.

Specific Message Contents

SYSTEM INFORMATION(master information block)

The contents of a SYSTEM INFORMATION message in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests, with the following exceptions:

Information Element	Value/remark
PLMN Type	spare value

8.1.2.8.5 Test requirement

After step3 the UE shall not transmit an RRC CONNECTION REQUEST message on the uplink CCCH.

8.1.3 RRC Connection Release

8.1.3.1 RRC Connection Release in CELL_DCH state: Success

8.1.3.1.1 Definition

8.1.3.1.2 Conformance requirement

In case of an RRC connection release from CELL_DCH state, the UTRAN transmits an RRC CONNECTION RELEASE message to the UE using unacknowledged mode on the DCCH. The UE then responds by transmitting an RRC CONNECTION RELEASE COMPLETE message using unacknowledged mode to UTRAN for N308 times, each time at the expiry of T308 timer. Then the UE leaves the RRC connected mode and initiates release of the layer2 signalling link. The RRC Connection Release procedure ends when all UE dedicated resources (such as radio resources and radio access bearers) associated with the RRC connection are released and the UE returns to idle mode.

Reference

3GPP TS 25.331 clause 8.1.4

8.1.3.1.3 Test purpose

To confirm that the UE releases the L2 signalling link and dedicated resources and goes back to the idle state after it receives an RRC CONNECTION RELEASE message from the SS and transmits an RRC CONNECTON RELEASE COMPLETE message to the SS for N308 times at the interval specified by the value of T308 timer.

8.1.3.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH state

Test Procedure

The UE is brought to the CELL_DCH state by prompting the operator to initiate an outgoing call. After the DCCH is established, SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the connection. SS then waits for the UE to transmit an RRC CONNECTION RELEASE COMPLETE message using unacknowledged mode . SS checks to see if P such messages has been received at each expiry of T308 timer. P is equal to the value of IE" Number of RRC Message Transmissions" in an RRC CONNECTION RELEASE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state after a successful RRC connection establishment by virtue of the operator making an outgoing call.
2	←		RRC CONNECTION RELEASE	SS disconnect the connection established. The value in IE"Number of RRC Message Transmissions" is arbitrarily chosen from 4 to 8 and denoted by P.
3	→		RRC CONNECTION RELEASE COMPLETE	SS waits for the arrival of N308 such message at the expiry of each T308 timer, using unacknowledged mode.
4				The UE releases L2 signalling link and dedicated resources then the UE goes to idle mode.

Specific Message Content

RRC CONNECTION RELEASE (Step2)

Information Element	Value/remark
Number of RRC Message Transmission	Arbitrarily chosen between 4 and 8

8.1.3.1.5 Test requirement

After step2 the UE shall start to transmit P times RRC CONNECTION RELEASE COMPLETE messages at the expiry of each T308 timer.

After step3 the UE shall initiate the release L2 signalling link and dedicated resources, then it shall go to idle mode.

8.1.3.2 RRC Connection Release using on DCCH in CELL_FACH state: Success

8.1.3.2.1 Definition

8.1.3.2.2 Conformance requirement

In ~~case of RRC connection release from~~ CELL_FACH state, the RRC layer entity in the network may issue~~s~~ an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. Upon the reception of this message, the UE ~~RRC~~ transmits an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to UTRAN on the DCCH and goes back to idle mode after it receives an RLC ~~response~~ confirmation from the UTRAN ~~RLC . If an invalid RRC CONNECTION RELEASE is received, the UE shall perform the appropriate error handling mechanism and report the error to the UTRAN.~~

Reference

3GPP TS 25.331 clause 8.1.4

8.1.3.2.3 Test purpose

To confirm that the UE releases the L2 signalling link and resources and goes back to the idle state after it receives an RRC CONNECTION RELEASE message on downlink DCCH from the SS. It shall transmit an RRC CONNECTON RELEASE COMPLETE message using acknowledged mode on uplink DCCH to the SS. ~~(e.g. the UE RLC confirms the transmission of the RRC CONNECTION RELEASE COMPLETE message.). If the UE receives an invalid release message, it shall ignore the message and report this event to the SS.~~

8.1.3.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH state

Test Procedure

The UE is brought to an initial state of CELL_FACH. After the successful establishment of the RRC connection, the SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the radio link. ~~However, the message contains an error in one of the mandatory IE. As a result, the UE shall not release the RRC connection and reply with RRC STATUS message indicating the error type. Then the SS transmits a second RRC CONNECTION RELEASE message with valid content.~~ When the UE receives this message the UE transmits an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS. Finally, SS checks that the UE performs proper ~~layer 2~~ release of all radio resources and then goes back to idle mode.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_FACH state.
~~2~~	~~←~~		~~RRC CONNECTION RELEASE~~	~~The message contains an error in one of the conditional IE.~~
~~3~~	~~→~~		~~RRC STATUS~~	~~IE"Protocol Error Information" shall be set to "Message Extension Not Comprehended"~~
4~~2~~	←		RRC CONNECTION RELEASE	SS sends this message using unacknowledged mode RLC operations on the uplink DCCH.
~~5~~3	→		RRC CONNECTION RELEASE COMPLETE	The UE transmits this message using acknowledged mode.
~~6~~4				The UE releases L2 signaling link and radio resources then the UE goes to idle mode.

Specific Message Contents

~~RRC CONNECTION RELEASE (Step 2)~~

~~Information Element~~	~~Value/remark~~
~~Number of RRC Message Transmissions~~	~~Arbitrarily selected from 1 to 8~~

~~RRC STATUS~~

~~Information Element~~	~~Value/remark~~
~~Protocol Error Information~~	~~Checked to see if set to "Message Extension Not Comprehended"~~

~~RRC CONNECTION RELEASE (Step 4)~~

~~Information Element~~	~~Value/remark~~
~~Number of RRC Message Transmissions~~	~~Not Present~~

8.1.3.2.5 Test requirement

~~After step 2 the UE shall maintain the RRC connection and respond to the RRC CONNECTION RELEASE message by sending RRC STATUS message. This message shall specify the cause "Message Extension Not Comprehended" in the IE"Protocol Error Information".~~

After step4~~2~~ the UE shall transmit an RRC CONNECTION RELEASE COMPLETE messages using acknowledged mode then it shall receive a response for this massage from the SS-RLC.

After step~~5~~3 the UE shall release its L2 signalling link and radio resources, then it shall go back to idle mode.

8.1.3.3 RRC Connection Release using on CCCH in CELL_FACH state: Success

8.1.3.3.1 Definition

8.1.3.3.2 Conformance requirement

In CELL_FACH state, the RRC layer entity in the network may issue an RRC CONNECTION RELEASE message using unacknowledged mode on the CCCH. Upon the reception of this message, the UE shall release the RRC connection immediately, without replying with a RRC CONNECTION RELEASE COMPLETE message on the uplink.

Reference

3GPP TS 25.331 clause 8.1.4

8.1.3.3.3 Test purpose

To confirm that the UE releases all its radio resources upon the reception of a RRC CONNECTION RELEASE message on the downlink CCCH, without transmitting RRC CONNECTION RELEASE COMPLETE message on the uplink.

8.1.3.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH state

Test Procedure

The UE is brought to an initial state of CELL_FACH. After the successful establishment of the RRC connection, SS transmits RRC CONNECTION RELEASE message on the downlink CCCH. The UE shall terminate the RRC connection and release all radio resources allocated to it. SS monitors the uplink DCCH and CCCH to verify that no transmission is detected.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_FACH state.
2	←		RRC CONNECTION RELEASE	SS transmits this message with the contents identical to that found in TS 34.108 clause 9 on downlink CCCH.
3				SS waits for a period equivalent to (N308+1) times T308 timer expiry. The UE shall not send any response message on uplink direction during this period. It shall release the radio resources allocated and return to idle mode.

Specific Message Contents

8.1.3.3.5 Test requirement

After step 2 the UE shall release all its radio resources, return to idle mode, without transmitting RRC CONNECTION RELEASE COMPLETE message on the uplink direction.

8.1.3.~~3~~4 RRC Connection Release in CELL_FACH_state: Failure

8.1.3.~~3~~4.1 Definition

8.1.3.~~4~~3.2 Conformance requirement

In case of RRC connection release from CELL_FACH state, the RRC layer entity in the network issues an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. When the UE does not succeed to transmit the RRC CONNECTION RELEASE COMPLETE message using acknowledged mode, it shall release all its radio resources, enter idle mode and the procedure ends on the UE side.

Reference

3GPP TS 25.331 clause 8.1.4

8.1.3.~~3~~4.3 Test purpose

To confirm that the UE releases all its radio resources and enters idle mode when the UE does not succeed in transmitting the RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS.(i.e. the UE-RLC cannot receive acknowledgement for the transmission of the RRC CONNECTION RELEASE COMPLETE message from SS.).

8.1.3.~~4~~3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH state

Test Procedure

At the start of the test, the UE is brought to CELL_FACH state. When the RRC connection has been established, the SS transmits an RRC CONNECTION RELEASE message to the UE to disconnect the radio link. When the UE receives this message the UE transmits an RRC CONNECTION RELEASE COMPLETE message using acknowledged mode to the SS. The SS ignores the message and does not transmit a STATUS PDU of RLC for this message. SS checks to see that UE continues to release all its radio resources and then enters idle mode.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought into CELL_FACH state by asking the operator to perform an outgoing call attempt. Clause
2	←		RRC CONNECTION RELEASE	SS ask to disconnect the radio link
3	→		RRC CONNECTION RELEASE COMPLETE	The UE transmits this message using acknowledged mode. The SS ignores this message and shall not transmit a STATUS PDU of RLC for this message.
4				SS checks to make sure that UE releases its all radio resources and enter idle mode.

Specific Message Contents

None

8.1.3.~~3~~4.5 Test requirement

After step3 the UE shall release its L2 signalling link and radio resources then it shall go to idle mode.

8.1.3.5 RRC Connection Release in CELL_FACH state: Invalid message

8.1.3.5.1 Definition

8.1.3.5.2 Conformance requirement

In CELL_FACH state, the RRC layer entity in UTRAN may issue an RRC CONNECTION RELEASE message using unacknowledged mode on the DCCH. If an invalid RRC CONNECTION RELEASE message is received by the UE, the UE shall activate the appropriate error-handling mechanism and report the error to the UTRAN. After this, the UE shall release the RRC connection.

Reference

3GPP TS 25.331 clause 8.1.4

8.1.3.5.3 Test purpose

When the UE receives an invalid RRC CONNECTION RELEASE message on the downlink DCCH, it shall transmit an RRC CONNECTON RELEASE COMPLETE message that includes the appropriate error cause on the uplink DCCH. Thereafter, it shall release the RRC connection.

8.1.3.5.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH state

Test Procedure

The UE is brought to an initial state of CELL_FACH. SS transmits an RRC CONNECTION RELEASE message on the DCCH to request to disconnect the RRC connection. However, the message contains a spare value in the IE ”Release cause”. As a result, the UE shall transmit an RRC CONNECTION RELEASE COMPLETE message on the uplink DCCH, which includes the IE “Error indication”. This IE shall contain “Failure cause” IE which is set to “Protocol error” and “Protocol error information” IE which is set to “Information element value not comprehended” The UE shall release the RRC connection and go back to idle mode after transmitting the RRC CONNECTION RELEASE COMPLETE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the CELL_FACH state.
2	←		RRC CONNECTION RELEASE	See specific message contents for this message
3	→		RRC CONNECTION RELEASE COMPLETE	The IE "Protocol error cause" found in IE "Protocol error information" shall be set to "Information element value not comprehended".
4				The UE shall release the signalling link and radio resources, and then return to idle mode.

Specific Message Contents

RRC CONNECTION RELEASE (Step 2)

Information Element	Value/remark
Release cause	Contains a spare value in this IE

RRC CONNECTION RELEASE COMPLETE

Information Element	Value/remark
Error Indication Failure cause Protocol error information Protocol error cause	 Protocol error Information element value not comprehended

8.1.3.5.5 Test requirement

After step2 the UE shall transmit an RRC CONNECTION RELEASE COMPLETE message which includes the appropriate cause values in IE "Error Indication".

After step3 the UE shall release its L2 signalling link and radio resources, then it shall go back to idle mode.

8.1.4 RRC Connection Re-Establishment

8.1.4.1 RRC Connection Re-Establishment : Success

8.1.4.1.1 Definition

8.1.4.1.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After a successful cell re-selection and transiting to CELL_FACH state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to request for the re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RE-ESTABLISHMENT message on the downlink DCCH, which includes thenew configuration information. Then the UE transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.1.3 Test purpose

To confirm that the UE tries to find a new cell by transiting to CELL_FACH state, after detecting that a radio link failure has occurred. The UE shall then attempt to establish a new RRC connection using an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" . Finally when the SS allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message, the UE shall establish a new RRC connection link.

8.1.4.1.4 Method of test

Initial Condition

System Simulator : 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state in cell 1

Test Procedure

The UE is brought to CELL_DCH state in a cell 1 after a successful outgoing call attempt. After the call has been established, the SS stops transmitting and receiving in a cell No.1 and begins to broadcast the BCCH in cell 2, the UE should detect a radio link failure in cell 1 and attempts to re-select to cell 2. It should then enter CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to SS. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new configuration information. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
2	←		BCCH	The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
3				The SS stops transmitting and receiving in a cell .1.
4	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE should find a new cell 2 and then transmits this message which includes the IE"U-RNTI" assigned previously.
5	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
6	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

Cell 1: SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	8 seconds
T313	15 seconds
T314	20 seconds
T315	30 seconds
N313	50

8.1.4.1.5 Test requirement

After step3, the UE shall detect the presence of cell 2 and attempts to re-established the lost RRC connection by transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST in the new cell.

After step5, the UE shall re-establish an RRC connection and observe the new configuration information specified in an RRC CONNECTION RE-ESTABLISHMENT message.

8.1.4.2 RRC Connection Re-Establishment: Success after T301 timeout (T314 and T315 are running)

8.1.4.2.1 Definition

8.1.4.2.2 Conformance requirement

1. RRC connection re-establishment is needed when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After a cell re-selection to a new cell, the UE transits to CELL_FACH state. In this state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to request the re-establishment of an RRC connection.
2. In the case of a failure to re-establish the RRC connection after the expiry of timer T301 ,the UE retries to re-establish the RRC connection. Finally when the UTRAN allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message, the UE shall establish a new RRC connection link.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.2.3 Test purpose

To confirm that the UE retries to re-establish a new RRC connection after the expiry of timer T301. This occurs after the UE loses the radio connection and starts to transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

8.1.4.2.4 Method of test

Initial Condition

System Simulator : 2 cells?Cell 1 is active, Cell .2 is inactive?

UE: CELL_DCH state in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1, after making a successful outgoing call attempt. SS begins to broadcast the BCCH in cell 2 and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure and the presence of cell 2. It then enters CELL_FACH state and transmits to SS an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH. The SS does not transmit an RRC CONNECTION RE-ESTABLISHMENT to answer to the request. This causes T301 timer to expire and the UE re-transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message again. Then the SS transmits an RRC CONNECTION RE-ESTABLISHMENT message and the UE reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS prompts the operator to make an outgoing call. The UE is in the CELL_DCH state in cell 1.
2	←		BCCH	The SS starts to transmit BCCH in a cell 2, with the SYSTEM INFORMATION message similar (with the exception of cell identity IE) to that transmitted in cell 1.
3				The SS stops transmitting and receiving in cell 1.
4	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds cell 2 and transmits this message which includes the IE"U-RNTI".
5				The SS does not transmit a response.
6	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	After the expiry of T301 the UE re-ransmits this message.
7	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
8	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.1.4.2.5 Test requirement

?After step3, the UE shall detect presence of cell 2 and starts to transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message to setup the radio link again.

After step5, the UE shall re-transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH after the expiry of timer T301.

After step7 the UE shall re-establish an RRC connection in cell 2, using the new configuration commanded by the SS.

8.1.4.3 RRC Connection Re-Establishment: Success after reception of invalid message(V301 is not greater than N301)

8.1.4.3.1 Definition

8.1.4.3.2 Conformance requirement

1. RRC connection re-establishment is needed when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After a cell re-selection to a new cell, the UE transits to CELL_FACH state. In this state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to request the re-establishment of an RRC connection.

2. In the case of a reception of an invalid RRC CONNECTION RE-ESTABLISHMENT message, the UE retries to re-establish the RRC connection until up to a maximum of N301 attempts after the expiry of timer T301.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.3.3 Test purpose

To confirm that the UE retries to re-establish a new RRC connection until its internal variable V301 is greater than N301 after the expiry of timer T301 when the UE receives an invalid RRC CONNECTION RE-ESTABLISHMENT message.

8.1.4.3.4 Method of test

Initial Condition

System Simulator : 2 cells?Cell 1 is active, Cell .2 is inactive?

UE: CELL_DCH state in cell 1

Test Procedure

Before the test starts, a SS internal counter K is initialized to 1. The UE is in the CELL_DCH state in cell 1, after making a successful outgoing call attempt. SS begins to broadcast the BCCH in cell 2 and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure and the presence of cell 2. It then enters CELL_FACH state and transmits to SS an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message to answer to the request which includes the "DRX Indicater" IE set to "spare value". After T301 timer expires , the UE re-transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message again. When K is equal to N301-1 then the SS transmits an RRC CONNECTION RE-ESTABLISHMENT message and the UE reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS sets internal counter K to 1 and prompts the operator to make an outgoing call. The UE is in the CELL_DCH state in cell 1.
2	←		BCCH	The SS starts to transmit BCCH in a cell 2, with the SYSTEM INFORMATION message similar (with the exception of cell identity IE) to that transmitted in cell 1.
3				The SS stops transmitting and receiving in cell 1.
4	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds cell 2 and transmits this message which includes the IE"U-RNTI".
5				If K is equal to N301-1 then next step is 7.
6	←		RRC CONNECTION RE-ESTABLISHMENT	The SS transmits a response which includes the "DRX iIndicator" IE set to "spare value" but increments K and moves to step 4 to wait for another uplink message.
7	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
8	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.1.4.3.5 Test requirement

After step3, the UE shall detect presence of cell 2 and starts to transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message to setup the radio link again.

After step4, the UE shall re-transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH after the expiry of timer T301. The total number of RRC CONNECTION RE-ESTABLISHMENT messages received by SS shall be equal to N301-1 at an time interval equivalent to T301 timer value.

After step7 the UE shall re-establish an RRC connection in cell 2, using the new configuration commanded by the SS.

8.1.4.4 RRC Connection Re-Establishment: Failure after reception of invalid message (V301 is greater than N301)

8.1.4.4.1 Definition

8.1.4.4.2 Conformance requirement

1. RRC connection re-establishment is needed when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After cell re-selection and then transiting to CELL_FACH state, the UE RRC transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to request for re-establishment of an RRC connection.

2. In the case of a reception of an invalid RRC CONNECTION RE-ESTABLISHMENT message, if the UE retries to re-establish the RRC connection until up to a maximum of N301 attempts after the expiry of timer T301 and receives the invalid message, the UE goes back to idle mode.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.4.3 Test purpose

To confirm that the UE stops retrying to re-establish the RRC connection if its internal counter V301 is greater than N301 and then goes back to idle state.

8.1.4.4.4 Method of test

Initial Condition

System Simulator : 2 cells? Cell 1 is active, Cell2 is inactive?

UE: CELL_DCH state in cell 1

Test Procedure

The UE is in the CELL_DCH state in a cell 1. SS begins to broadcast the BCCH in cell 2, and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure and the presence of cell 2. It then enters CELL_FACH state and transmits to SS an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message to answer to the request which includes the "DRX Indicater" IE set to "spare value", resulting in T301 timer to expire and the UE re-transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message again. The SS keeps a count of the number of RRC CONNECTION RE-ESTABLISHMENT REQUEST messages received. The UE goes back to idle mode after N301 transmission attempts.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS set counter K to 1. The UE is in CELL_DCH state in a cell 1 after establishing an outgoing call.
2	←		BCCH	The SS starts to transmit BCCH in a cell 2.
3				The SS stops transmitting and receiving in a cell 1.
4	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds new cell 2 and transmits this message which includes the IE"U-RNTI".
5	←		RRC CONNECTION RE-ESTABLISHMENT	The SS transmits a response which includes the "DRX iIndicator" IE set to "spare value" and increments K If K is greater than N301, then the next step is step 6 else go to step 4.
6				The UE goes back to idle mode.

Specific Message Contents

None

8.1.4.4.5 Test requirement

?After step3 the UE shall find the presence of cell 2, enters CELL_FACH state, and starts to transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message to setup the radio link again.

?After step5 the UE shall transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH after the expiry of timer T301 until V301 is greater than N301. If V301is greater than N301 then the UE shall go back to idle mode.

8.1.4.5 RRC Connection Re-Establishment: Failure (Release)

8.1.4.5.1 Definition

8.1.4.5.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. After the completion of cell re-selection and transiting to CELL_FACH state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to request for re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RELEASE message signifying that it is not able to accept the request, so the UE shall ~~transmit an RRC CONNECTION RELEASE COMPLETE message to the UTRAN and~~ goes ~~back~~ back to idle mode.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.5.3 Test purpose

To confirm that the UE transmits an RRC CONNECTION RELEASE COMPLETE message and goes back to idle mode after its request to re-establish an RRC connection was rejected by the SS in the new cell. The request to re-establish should be made with an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI".

8.1.4.5.4 Method of test

Initial Condition

System Simulator : 2 cells Cell 1 is active, Cell 2 is inactive

UE: CELL_DCH state in cell 1

Test Procedure

The UE starts from CELL_DCH state in cell 1 after making a successful outgoing call. When the SS stops transmitting and receiving in cell 1 and begins to broadcast the BCCH in cell 2, the UE should detect radio link failure and the presence of cell 2. It then enters CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes the IE"U-RNTI" on the uplink CCCH. The SS replies with a RRC CONNECTION RELEASE message on the downlink CCCH using transport mode operation. ~~After the UE receives the RRC CONNECTION RELEASE message, it shall transmit an RRC CONNECTION RELEASE COMPLETE message on the uplink CCCH using RLC-TM.~~ Finally, it goes back to idle mode.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state in cell 1 after completing a successful outgoing call setup.
2		←	BCCH	The SS transmits BCCH in cell 2
3				The SS stops transmitting and receiving in cell 1.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds new cell 2 and transmits this message which includes the IE"U-RNTI".
5		←	RRC CONNECTION RELEASE	SS rejects the re-establishment request. Sent on downlink CCCH using RLC-TM.
6		~~→~~	~~RRC CONNECTION RELEASE COMPLETE~~	~~This message shall be received on the uplink CCCH using RLC-TM.~~ The UE goes back to idle ~~mode after sending this message~~.

Specific Message Contents

RRC CONNECTION RELEASE: TM

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
- SRNC Identity	Set to the same SRNC identity as previously assigned
- S-RNTI	Set to the same S-RNTI as previously assigned
Integrity check info	Not Checked
Number of RRC Message Transmissions	Not Present
Release cause	Check to see if set to "Re-establishment reject"

~~RRC CONNECTION RELEASE COMPLETE: TM~~

~~Information Element~~	~~Semantics description~~
~~Message Type~~	
~~U-RNTI~~	
~~- SRNC Identity~~	~~Check the same SRNC identity as previously assigned~~
~~- S-RNTI~~	~~Check the same S-RNTI as previously assigned~~
~~Integrity check info~~	~~Not checked.~~

8.1.4.5.5 Test requirement

After step 3 the UE shall find the new cell 2 and transmits RRC CONNECTION RE-ESTABLISHMENT REQUEST to ask for re-connection of the radio link.

After step 5 the UE shall ~~not transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message, instead it sends RRC CONNECTION RELEASE COMPLETE message on the uplink CCCH (transparent mode) and~~ goes back to idle mode.

8.1.4.6 RRC Connection Re-Establishment: Failure(T315=0,T314=0)

8.1.4.6.1 Definition

8.1.4.6.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. However the UE must enter to idle mode when T314 is set to 0 in RADIO BEARER SETUP message and also T315 is set to 0 in SYSTEM INFORMATION message.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.6.3 Test purpose

To confirm that the UE enters to idle mode, after detecting that a radio link failure has occurred.

8.1.4.6.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: CELL_DCH state

Test Procedure

The UE is brought to CELL_DCH state, after successfully executing the mobile-terminated RRC connection establishment procedure as outlined in clause 7.1.2 in TS 34.108. The MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK TYPE 2 messages on the downlink BCCH is modified with respect to the default setting. Next, SS transmits RADIO BEARER SETUP message on the downlink DCCH in order to establish radio bearers for user-data on DTCH. In this message, the re-establishment timers T314 and T315 are both set to 0. The UE shall respond by sending a RADIO BEARER SETUP COMPLETE message on the uplink DCCH. After the DTCH has been established, the SS stops transmitting and receiving on the radio link except P-CCPCH, the UE should detect a radio link failure . Then the UE shall enter to idle mode as both T314 and T315 are set to 0.The SS transmits a PAGING TYPE1 message on the PCCH to confirm that the UE is in idle state., the UE transmits an RRC CONNECTION REQUEST message on the uplink CCCH. SS replies with an RRC CONNECTION SETUP message and allocates dedicated channels to the UE. Then, the UE shall complete this test by transmitting RRC CONNECTION SETUP COMPLETE message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 2	T315=0
2		←	RADIO BEARER SETUP	T314=0
3		→	RADIO BEARER SETUP COMPLETE	
4				The UE is brought to CELL_DCH state, after making a successful outgoing call.
5				The SS stops transmitting and receiving on the radio link except the PCCPCH.
6				The UE should enter to idle mode after it detects the radio link failure and SS confirms that the UE does not transmit any RRC CONNECTION RE-ESTABLISHMENT REQUEST messages for 20 seconds.
7		←	PAGING TYPE1	SS resumes transmission and reception on radio links suspended in step 4. SS pages the UE using a matched identity (test-SIM IMSI).
8		→	RRC CONNECTION REQUEST	SS checks the following IEs : "Initial UE identity" – must be the same as test-SIM IMSI. "Establishment Cause – must "Terminating Call" "Protocol Indicator" – must be FALSE
9		←	RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish a RRC connection.
10		→	RRC CONNECTION SETUP COMPLETE	UE shall acknowledge the completion of RRC connection establishment procedure.

Specific Message Contents

MASTER INFORMATION BLOCK (Step 1)

Use the same message type in clause 6.1 of TS 34.108, with the following exception:

Information Element	Value/remark
MIB Value Tag	2

SYSTEM INFORMATION BLOCK TYPE 2 (Step 1)

Use the same message type in clause 6.1 of TS 34.108, with the following exceptions:

Information Element	Value/remark
UE Timers and constants in connected mode T301 T313 T314 T315 N313	 3 seconds 15 seconds 20 seconds 0 seconds 50

RADIO BEARER SETUP (Step 2)

The contents of RADIO BEARER SETUP message in this test case is identical to message sub-type titled "The others of speech in CS" in Annex A, with the following exceptions:

Information Element	Value/remark
RAB information to setup list - RAB information for setup - RAB info - RAB identity - CN Domain Identity - Re-establishment timer - CHOICE Timer value - T314 value	 1 One of the CN domains supported by the UE T314 0

PAGING TYPE 1 (Step 7)

Information Element	Value/remark
Paging record list Paging record CHOICE Paging originator - Paging cause - CN domain identity - CHOICE UE Identity - IMSI	Only 1 entry CN originator Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS) Supported Domain (PS Domain or CS Domain) IMSI Set to the same octet string as in the IMSI stored in the USIM card

8.1.4.6.5 Test requirement

After step 5 the UE shall not transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

After step 9 the UE shall have an RRC connection based on dedicated physical channel resources. SS verifies that the UE transmits RRC CONNECTION SETUP COMPLETE on the uplink DCCH.

8.1.4.7 RRC Connection Re-Establishment: Success(T314=0, T315>0 and radio link failure)

8.1.4.7.1 Definition

8.1.4.7.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. But the UE must release the radio bearer which is associated with T314 if T314 is set to 0. After a successful cell re-selection and a subsequent transition to CELL_FACH state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to request for the re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RE-ESTABLISHMENT message on the downlink DCCH, which includes the new configuration information assigned. Then the UE transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.7.3 Test purpose

To confirm that the UE indicates to the non-access stratum the release of radio access bearer which is associated with T314 and try to find a new cell by transiting to CELL_FACH state, after detecting that a radio link failure has occurred. The UE shall then attempt to establish a new RRC connection using an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" . Finally when the UTRAN allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message,the UE shall establish a new RRC connection link.

8.1.4.7.4 Method of test

Initial Condition

System Simulator : 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state in cell 1, after executing a generic call set-up procedure for mobile originating CS or PS call (clauses 7.2.3.2 and 7.2.4.2 in TS 34.108). The exact procedure to apply depends on the CN domain(s) supported by the UE.

Test Procedure

The UE is brought to CELL_DCH state in a cell 1 after making an successful outgoing call attempt. After the call has been established, SS begins to broadcast the BCCH in cell 2, and then stops transmitting and receiving in cell 1. The UE shall detect a radio link failure in cell 1 and indicate to the non-access stratum the release of the radio bearer which is associated with T314. It shall attempt to re-select to cell 2. It should then enter CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to SS. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new configuration. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	T314=0
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
4	←		BCCH	The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
5				The SS stops transmitting and receiving in a cell .1.
6				The UE detects the radio link failure which is associated with T314. The UE indicates to the non-access stratum the release of the affected radio bearer .
7	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE should find a new cell 2 and then transmits this message which includes the IE"U-RNTI" assigned previously.
8	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
9	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
RAB information to setup list - RAB information to setup - RAB info - T314	 0

8.1.4.7.5 Test requirement

After step5, the UE shall indicate to the non-access stratum the release of the radio bearer which is associated with T314. SS checks that no further data transmission from the affected radio bearer is received from the UE.

After step6, the UE shall detect the presence of cell 2 and attempts to re-established the lost RRC connection by transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST in the new cell.

After step8, the UE shall re-establish an RRC connection .

8.1.4.8 RRC Connection Re-Establishment: Success(T314>0, T315=0 and radio link failure)

8.1.4.8.1 Definition

8.1.4.8.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. But the UE must release the radio bearer which is associated with T315 if T315 is set to 0. After a successful cell re-selection and subsequent transition to CELL_FACH state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to request for the re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RE-ESTABLISHMENT message on the downlink DCCH, which includes the new configuration information assigned. Then the UE transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.8.3 Test purpose

To confirm that the UE shall indicate to the non-access stratum the release of radio access bearer which is associated with T315 and try to find a new cell by transiting to CELL_FACH state, after detecting that a radio link failure has occurred. The UE shall then attempt to establish a new RRC connection using an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" . Finally when the SS allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message,the UE shall establish a new RRC connection link.

8.1.4.8.4 Method of test

Initial Condition

System Simulator : 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state in cell 1, after executing a generic call set-up procedure for mobile originating CS or PS call (clauses 7.2.3.2 and 7.2.4.2 in TS 34.108). The exact procedure to apply depends on the CN domain(s) supported by the UE.

Test Procedure

The UE is brought to CELL_DCH state in a cell 1 after making an successful outgoing call attempt. After the call has been established, SS begins to broadcast the BCCH in cell 2, and then stops transmitting and receiving in cell 1. The UE shalldetect a radio link failure in cell 1 and indicate to the non-access stratum the release of the radio bearer which is associated with T315. Then it shall attempt to re-select to cell 2. After that, it should then enter CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT

REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to SS. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new configuration information. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	T315=0
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
4	←		BCCH	The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
5				The SS stops transmitting and receiving in a cell .1.
6				The UE detects the radio link failure which is associated with T315. The UE indicates to the non-access stratum the release of the radio bearer .
7	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE should find a new cell 2 and then transmits this message which includes the IE"U-RNTI" assigned previously.
8	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information channel.
9	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
RAB information to setup list - RAB information to setup - RAB info - T314	 0

8.1.4.8.5 Test requirement

After step5, the UE shall indicate to the non-access stratum the release of the radio bearer which is associated with T314.

After step6, the UE shall detect the presence of cell 2 and attempts to re-established the lost RRC connection by transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST to the new cell.

After step8, the UE shall re-establish an RRC connection.

8.1.4.9 RRC Connection Re-Establishment: Failure (T314 is timeout and T315=0)

8.1.4.9.1 Definition

8.1.4.9.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. When the UE could not find a new cell before timer T314 expires, the UE shall enter idle mode.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.9.3 Test purpose

To confirm that the UE enters idle mode, after T314 timeout following a radio link failure.

8.1.4.9.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: CELL_DCH state

Test Procedure

The UE is brought to CELL_DCH state after a successful RRC connection establishment . After the DTCH has been established using radio bearer establishment procedure, the SS stops transmitting and receiving the DPCCH and DPDCH on the radio link. The UE shall detect a radio link failure. Before T314 is timeout, the UE shall continue to search for a new cell. During this period, SS transmits a PAGING TYPE1 message on the PCCH to confirm that the UE has not entered the idle state. This is confirmed when no response from UE is received before T314 timeout. After T314 timeout, the UE shall enter idle mode. The SS transmits a PAGING TYPE1 message on the PCCH again to confirm that the UE is in idle state.The UE shall respond by transmitting an RRC CONNECTION REQUEST message on the uplink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	T314=20 seconds
2	→		RADIO BEARER SETUP COMPLETE	
3				The UE is brought to CELL_DCH state, after making a successful outgoing call.
4				The SS stops transmitting and receiving the DPCCH and DPDCH on the radio link.
5	←		PAGING TYPE1	The SS transmits this message, which includes a matched identity (set to the test-USIM IMSI) before T314 timeout.
6				The SS confirms that the UE does not transmit a response in the next 20 seconds.
7	←		PAGING TYPE1	The SS transmits the message, which includes a matched identity (set to the test-USIM IMSI).
8	→		RRC CONNECTION REQUEST	SS checks the following IEs : "Initial UE identity" – must be the same as test-SIM IMSI. "Establishment Cause – must "Terminating Call" "Protocol Indicator" – must be FALSE
9	←		RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish a RRC connection.

Specific Message Contents

SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	3 seconds
T313	15 seconds
T314	20 seconds
T315	0 seconds
N313	50

RADIO BEARER SETUP (Step 1)

The contents of RADIO BEARER SETUP message in this test case is identical to the one found in clause of TS 34.108 with the following exceptions:

Information Element	Value/remark
RAB information to setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	TM RLC
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1

PAGING TYPE 1 (Step 5 and 7)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card

RRC CONNECTION SETUP (Step 9)

Use the default message found in clause 9 of TS 34.108.

8.1.4.9.5 Test requirement

After step 5 the UE shall not transmits an RRC CONNECTION REQUEST message.

After step 9 the UE shall have an RRC connection based on dedicated physical channel resources.

8.1.4.10 RRC Connection Re-Establishment: Failure (T315 is timeout and T314=0)

8.1.4.10.1 Definition

8.1.4.10.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. radio link failure in CELL_DCH state. When the UE could not find a new cell before timer T315 is expires, the UE shall enter idle mode.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.10.3 Test purpose

To confirm that the UE enters idle mode, after T315 is expires following a radio link failure.

8.1.4.10.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: CELL_DCH state

Test Procedure

The UE is brought to CELL_DCH state after a successful RRC connection establishment. After the DTCH has been established using the radio bearer establishment procedure, the SS stops transmitting and receiving the DPCCH and DPDCH on the radio link. The UE shall detect a radio link failure. Before T315 is timeout, the UE shall continue to search for a new cell. During this period, SS transmits a PAGING TYPE1 message on the PCCH to confirm that the UE has not entered the idle state. This is confirmed when no response from the UE is received before T315 timeout. After T315 is timeout, the UE shall enter idle mode. The SS transmits a PAGING TYPE1 message on the PCCH again to confirm that the UE is in idle state. The UE shall respond by transmitting an RRC CONNECTION REQUEST message on the uplink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	T315=30 seconds
2		→	RADIO BEARER SETUP COMPLETE	
3				The UE is brought to CELL_DCH state, after making a successful outgoing call.
4				The SS stops transmitting and receiving the DPCCH and DPDCH on the radio link.
5		←	PAGING TYPE1	The SS transmits this message, which includes a matched identity (set to the test-USIM IMSI) before T315 itimeout.
6				The SS confirms that the UE does not transmit a response in the next 30 seconds.
7		←	PAGING TYPE1	The SS transmits the message, which includes a matched identity (set to the test-USIM IMSI).
8		→	RRC CONNECTION REQUEST	SS checks the following IEs : "Initial UE identity" – must be the same as test-SIM IMSI. "Establishment Cause – must "Terminating Call" "Protocol Indicator" – must be FALSE
9		←	RRC CONNECTION SETUP	SS assigns DPCH resources to allow UE to establish a RRC connection.

Specific Message Contents

SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	3 seconds
T313	15 seconds
T314	0 seconds
T315	30 seconds
N313	50

RADIO BEARER SETUP (Step 1)

The contents of RADIO BEARER SETUP message in this test case is identical to the one found in clause 9 of TS 34.108 with the following exceptions:

Information Element	Value/remark
RAB information to setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
Re-establishment timer	
- T315	30 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- Downlink RLC mode	TM RLC
- In-sequence delivery	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- MAC logical channel priority	1
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1

PAGING TYPE 1 (Step 5 and 7)

Information Element	Value/remark
Paging record list	Only 1 entry
Paging record	
CHOICE Paging originator	CN originator
- Paging cause	Terminating Call with one of the supported services (Conversational Call, Streaming Call, Interactive Call, Background Call, SMS)
- CN domain identity	Supported Domain (PS Domain or CS Domain)
- CHOICE UE Identity	IMSI
- IMSI	Set to the same octet string as in the IMSI stored in the USIM card

RRC CONNECTION SETUP (Step 9)

Use the default message found in clause 9 of TS 34.108.

8.1.4.10.5 Test requirement

After step 5 the UE shall not transmits an RRC CONNECTION REQUEST message.

After step 9 the UE shall have an RRC connection based on dedicated physical channel resources.

8.1.4.11 RRC Connection Re-Establishment: Success(Unrecoverble error in RLC)

8.1.4.11.1 Definition

8.1.4.11.2 Conformance requirement

RRC connection re-establishment is needed, when a UE loses the radio connection due to e.g. detection of RLC unrecoverble error (amount of the retransmission of RESET_PDU reaches the value of Max_DAT and receives no ACK) in CELL_DCH state. After a successful cell re-selection and transition to CELL_FACH

state, the UE transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to request for the re-establishment of an RRC connection. The UTRAN transmits an RRC CONNECTION RE-ESTABLISHMENT message on the downlink DCCH, which includes the new configuration information assigned. Then the UE transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.1.5

8.1.4.11.3 Test purpose

To confirm that the UE tries to find a new cell by transiting to CELL_FACH state, after detecting that a RLC unrecoverble error has occurred. The UE shall then attempt to establish a new RRC connection using an RRC CONNNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" . Finally when the SS allocates a new configuration to the UE using RRC CONNECTION ESTABLISHMENT message, the UE shall establish a new RRC connection link.

8.1.4.11.4 Method of test

Initial Condition

System Simulator : 2 cells? Cell 1 is active, Cell 2 is inactive?

UE: CELL_DCH state in cell 1

Test Procedure

The UE is brought to CELL_DCH state in a cell 1 after a successful outgoing call attempt. After the call has been established, the SS transmits a PAGING TYPE2 message on the downlink DCCH. Then the UE transmits an UPLINK DIRECT TRANSFER message on the uplink using AM-RLC for the response and the SS does not transmit a STATUS PDU for the response to AM-RLC PDU. and begins to broadcast the BCCH in cell 2. The UE should detect an unrecoverble error in cell 1 and attempts to re-select to cell 2. It should then enter CELL_FACH state and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH to SS. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes "TRUE" in RLC reset indicator(for C-plane) IE and a new TFCS setting according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the RLC and the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state in a cell 1, after making a successful outgoing call.
2	←		PAGING TYPE2	The SS transmits a PAGING TYPE 2 message to the UE on the downlink DCCH in cell 1.
3	→		UPLINK DIRECT TRANSFER	The UE responds to the PAGING TYPE 2 message using AM-RLC but the SS does not transmit a STATUS PDU as an acknowledgement.
4	←		BCCH	The SS starts transmitting the BCCH in a cell 2 using the same contents (except for cell identity which is set to "0000 0000 0000 0010") for system information sent on cell 1. SS starts to listen to the uplink CCCH of cell 2.
5				The UE detects an unrecoverble error in the RLC level.
6	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE should find a new cell 2 and then transmits this message which includes the IE"U-RNTI" assigned previously.
7	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new configuration information.
8	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

Cell 1: SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
UE Timers and constants in connected mode	
T301	8 seconds
T313	15 seconds
T314	~~3~~2<u>0</u> seconds
T315	30 seconds
N313	~~16~~<u>20</u>

8.1.4.11.5 Test requirement

After step5, the UE shall detect the presence of cell 2 and attempt to re-established the RRC connection by transmitting RRC CONNECTION RE-ESTABLISHMENT REQUEST in the new cell.

After step7, the UE shall re-establish an RRC connection.

8.1.5 UE capability

8.1.5.1 UE Capability: Success

8.1.5.1.1 Definition

8.1.5.1.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE if the UTRAN needs an update of the UE's UMTS capability information or of its inter-system classmark.

When the UE receives a UE CAPABILITY ENQUIRY message, the UE transmits a UE CAPABILITY INFORMATION message on the uplink DCCH. Then the UTRAN transmits a UE CAPABILITY INFORMATION CONFIRM message.

If during the execution of UE capability update procedure, an invalid UE CAPABILITY INFORMATION CONFIRM is received, the UE shall respond with RRC STATUS message and decide whether to re-transmit UE CAPABILITY INFORMATION message by comparing its internal counter against N304.

Reference

3GPP TS 25.331 clause 8.1.6, 8.1.7

8.1.5.1.3 Test purpose

To confirm that the UE transmits a UE CAPABILITY INFORMATION message after it receives a UE CAPABILITY ENQUIRY message from the SS. To confirm that the UE indicate an invalid message reception when errorneous downlink UE CAPABILITY ENQUIRY and UE CAPABILITY INFORMATION CONFIRM messages are received. The UE shall transmit RRC STATUS message with the correct error cause value to SS.

8.1.5.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: CELL_DCH state

Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. The SS transmits an erroneous UE CAPABILITY ENQUIRY message containing spare value in the IE"Capability update requirement". After receiving such a message, the UE should report the error using RRC STATUS message with the appropriate error cause specified. Then SS transmits a UE CAPABILITY ENQUIRY message which includes the IE" Capability update requirement", the UE receives this message and transmits a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the "Inter-system message"IE. The SS transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE to complete the test. Then SS initiates another UE capability update procedure by transmitting the same UE CAPABILITY ENQUIRY using as in step 4. The UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH. When SS receives this message, it transmit an erroneous UE CAPABILITY INFORMATION CONFIRM message. The content of this message is a concatentation of the message type IE and an arbitrary 32-bits string. The UE shall detect a protocol error and send RRC STATUS message to report this event. After receiving RLC acknowledgement for this message, the UE shall re-transmit UE CAPABILITY INFORMATION message on the uplink DCCH. SS completes this test by an error-free UE CAPABILITY INFORMATION CONFIRM message similar to the message sent in step 6.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state after an outgoing call has been established successfully.
2	←		UE CAPABILITY ENQUIRY	See specific message contents for this message
3	→		RRC STATUS	The IE“Protocol error cause” found in IE “Protocol error information” should be set to “Information element value not comprehended”
4	←		UE CAPABILITY ENQUIRY	Use default message.
5	→		UE CAPABILITY INFORMATION	The message shall includethe IE“Inter-system message”, which carries the GSM classmark information requested.
6	←		UE CAPABILITY INFORMATION CONFIRM	Use default message.
7	←		UE CAPABILITY ENQUIRY	Same as in step 4.
8	→		UE CAPABILITY INFORMATION	Shall be the same message content as in step 5.
9	←		UE CAPABILITY INFORMATION CONFIRM	This message contains an arbitrary 32-bits patterns, following the IE”Message Type”
10	→		RRC STATUS	UE shall detect an error and then transmit this message.
11	→		UE CAPABILITY INFORMATION	UE shall re-transmit this message after receiving acknowledgement from the SS for RRC STATUS message.
12	←		UE CAPABILITY INFORMATION CONFIRM	SS sends an error-free message to acknowledge the receipt of the uplink message.

Specific Message Contents

UE CAPABILITY ENQUIRY (Step 2 and 7)

Information Element	Value/remark
Capability update requirement - UE radio access capability update requirement - System specific capability update requirement list - System specific capability update requirement	 TRUE Contains a spare value in this IE

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	 Checked to see if set to “Information element not comprehended”

UE CAPABILITY INFORMATION CONFIRM (Step 9)

Information Element	Value/remark
Unknown bit pattern	An arbitrary 32 bits

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	Checked to see if set to “ASN.1 violation or encoding” or “conditional information element error”

8.1.5.1.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH, reporting the error with protocol error cause set to “Information element value not comprehended”.

After step 4 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH to respond to the UE CAPABILITY ENQUIRY message.

After step 9, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to “ASN.1 violation or encoding” or “conditional information element error”.

After step 10, the UE shall re-transmit the UE CAPABILITY INFORMATION message with a similar content as in step 8.

8.1.5.2 UE Capability: Success after T304 timeout

8.1.5.2.1 Definition

8.1.5.2.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE, if the UTRAN needs an update of the UE’s UMTS capability information or of its inter-system classmark.
2. After the UE receives a UE CAPABILITY ENQUIRY message, it transmits a UE CAPABILITY INFORMATION message on the uplink DCCH. If it fails to receive a UE CAPABILITY INFORMATION CONFIRM message, the UE re-transmits another UE CAPABILITY INFORMATION message until V304 is greater than N304.

Reference

3GPP TS 25.331 clause 8.1.6, 7

8.1.5.2.3 Test purpose

To confirm that the UE re- transmits a UE CAPABILITY INFORMATION message until V304 is greater than N304, after the expiry of timer T304 when the UE cannot receive a UE CAPABILITY INFORMATION CONFIRM message in response to a UE CAPABILITY INFORMATION message.

8.1.5.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: CELL_DCH state

Test Procedure

The UE is brought to CELL_DCH state. When the SS transmits a UE CACAPABILITY ENQUIRY message which includes the “Capability update requirement”IE, the UE shall reply with a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the “Inter-system message”IE. The SS does not transmits a UE CAPABILITY INFORMATION CONFIRM message to the UE, resulting in the T304 timer to expire. SS shall observe that the UE attempts to transmit a UE CAPABILITY INFORMATION message again. The UE shall re-transmit N304 times, and SS transmits a UE CAPABILITY INFORMATION CONFIRM message to answer the last request and completes this test procedure.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state. SS sets internal counter K =1
2	←		UE CAPABILITY ENQUIRY	Including the "Capability update requirement"IE.
3	→		UE CAPABILITY INFORMATION	Including the "Inter-system message"IE, which indicated the radio access network supported by the UE.
4				If K is greater to N304, then proceed to step 6.
5				The SS does not transmit a response and wait for T304 timer to expire. K=K+1 and goes to step 3.
6	←		UE CAPABILITY INFORMATION CONFIRM	Use default message contents

Specific Message Contents

None

8.1.5.2.5 Test requirement

After step3 the UE shall re- transmits a UE CAPABILITY INFORMATION message on the uplink DCCH, after each expiry of timer T304. The UE CAPABILITY INFORMATION message shall contain IE" UE radio access capability" indicating the settings found in PIC/PIXIT statements. IE"UE system specific capability" shall carry relevant GSM classmark information. After (N304+1) re-transmissions, the UE shall receive a UE CAPABILITY INFORMATION CONFIRM message.

8.1.5.3 UE Capability: Failure (After N304 re-transmissions)

8.1.5.3.1 Definition

8.1.5.3.2 Conformance requirement

1. The UE CAPABILITY ENQUIRY message is sent by the UTRAN to request the UE to transmit its capability information related to any radio access network that is supported by the UE if the UTRAN needs an update of the UE's UMTS capability information or of its inter-system classmark.
2. In the case of a failure to transmit a UE CAPABILITY INFORMATION in excess of N304 times, the UE initiates the RRC connection re-establishment procedure.

Reference

3GPP TS 25.331 clause 8.1.6, 8.1.7

8.1.5.3.3 Test purpose

To confirm that the UE stops retrying to transmit a UE CAPABILITY INFORMATION message if V304 is greater than N304. It then initiates the RRC re-establishment procedure.

8.1.5.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE: CELL_DCH state

Test Procedure

The UE is brought to CELL_DCH state. When the SS transmits a UE CAPABILITY ENQUIRY message which includes the “Capability update requirement”IE, the UE receives this message and transmits a UE CAPABILITY INFORMATION message on the uplink DCCH which includes the “Inter-system message”IE. The SS does not respond with a UE CAPABILITY INFORMATION CONFIRM messagebut keeps a count on the number of messages received When the T304 timer expires, the UE shall transmit a UE CAPABILITY INFORMATION message again. After sending (N304+1) messages, the UE shall stop sending UE CAPABILITY INFORMATION messages and initiates the RRC connection re-establishment procedure. This is verified in SS by the reception of RRC CONNECTION RE-ESTABLISHMENT REQUEST. SS allows UE to return to connected state by issuing RRC CONNECTION RE-ESTABLISHMENT message on the downlink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE starts from CELL_DCH state. SS sets counter K to 1
2	←		UE CAPABILITY ENQUIRY	Including the “Capability update requirement”IE.
3	→		UE CAPABILITY INFORMATION	Including the “Inter-system message”IE.
4				The SS does not transmit a response and allows T304 timer to expire. SS increments counter K If K is greater than N304, proceeds to step 5 else returns to 3.
5	→		RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE assumes that radio link failure has occurred and transmits this message which includes the IE”U-RNTI” containing the U-RNTI allocated to the UE earlier.
6	←		RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
7	→		RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.1.5.3.5 Test requirement

After step3 the UE shall transmit a UE CAPABILITY INFORMATION message on the uplink DCCH. The UE shall re-transmit this message for N304 times. Thereafter, the UE shall initiate the RRC re-establishment procedure by sending the message RRC CONNECTION RE-ESTALISHMENT REQUEST.

After step7 the UE shall have a new RRC connection, using the new transport format dictated in the RRC CONNECTION RE-ESTABLISHMENT message.

8.1.6 Direct Transfer

8.1.6.1 Direct Transfer in CELL DCH state(invalid message reception)

8.1.6.1.1 Definition

8.1.6.1.2 Conformance requirement

The UE shall transmit an RRC STATUS message stating the reason “protocol error” in IE” failure cause” and also set value “Information element value not comprehended” in IE” Protocol error cause “ when the UE receives a DOWNLINK DIRECT TRANFER message, which includes a spare value for the mandatory IE” CN domain identity” having criticality defined as “Reject”.

Reference

3GPP TS 25.331 clause 8.1.9

8.1.6.1.3 Test purpose

To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message specifying a spare value in the mandatory IE” CN domain identity”

8.1.6.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a DOWNLINK DIRECT TRANSFER message to the UE and includes the spare value in the mandatory IE” CN domain identity”. The UE shall transmit an RRC STATUS message on the DCCH using AM RLC, setting the value “protocol error” in IE” failure cause”. The error type “Information element value not comprehended” shall also be indicated in IE” Protocol error cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	DOWNLINK DIRECT TRANSFER	
2		→	RRC STATUS	

Specific Message Contents

DOWNLINK DIRECT TRANSFER

The contents of DOWNLINK DIRECT TRANSFER message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:.

Information Element	Value/remark
CN domain identity	Spare value

RRC STATUS

Information Element	Value/remark
Message Type	
Protocol error information	Information element value not comprehended
Other information element	Not checked

8.1.6.1.5 Test requirement

After step1 the UE shall transmit a n RRC STATUS message on the DCCH using AM RLC setting “protocol error” in IE” failure cause” and setting “Information element value not comprehended” in IE” Protocol error cause”.

8.1.6.2 Direct Transfer in CELL FACH state(invalid message reception)

8.1.6.2.1 Definition

8.1.6.2.2 Conformance requirement

The UE shall transmit an RRC STATUS message stating the reason “protocol error” in IE” failure cause” and also set value “Information element value not comprehended” in IE” Protocol error cause “ when the UE receives a DOWNLINK DIRECT TRANFER message, which includes a spare value for the mandatory IE” CN domain identity” having criticality defined as “Reject”.

Reference

3GPP TS 25.331 clause 8.1.9

8.1.6.2.3 Test purpose

To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC if it receives a DOWNLINK DIRECT TRANSFER message specifying a spare value in the mandatory IE” CN domain identity”

8.1.6.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a DOWNLINK DIRECT TRANSFER message to the UE and includes the spare value in the mandatory IE” CN domain identity”. The UE shall transmit an RRC STATUS message on the DCCH using AM RLC, setting the value “protocol error” in IE” failure cause”. The error type “Information element value not comprehended” shall also be indicated in IE” Protocol error cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	DOWNLINK DIRECT TRANSFER	
2		→	RRC STATUS	

Specific Message Contents

DOWNLINK DIRECT TRANSFER

The contents of DOWNLINK DIRECT TRANSFER message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:.

Information Element	Value/remark
CN domain identity	Spare value

RRC STATUS

Information Element	Value/remark
Message Type	
Protocol error information	Information element value not comprehended
Other information element	Not checked

8.1.6.2.5 Test requirement

After step1 the UE shall transmit a n RRC STATUS message on the DCCH using AM RLC setting “protocol error” in IE” failure cause” and setting “Information element value not comprehended” in IE” Protocol error cause”.

8.1.7 Security mode control

8.1.7.1 Definition

8.1.7.2 Conformance requirement

1. This procedure is used to trigger the stop or start of ciphering or to command the restart~~a change~~ of ciphering with the new~~the~~ ciphering configuration. It is also used to start integrity protection or modify integrity protection configuration ~~key~~, both for the signalling links and any of radio bearers~~for a user plane connection~~.

2. When ~~T~~the ~~SRNC transmits~~UE receives a SECURITY MODE COMMAND message from the UTRAN~~to the UE,~~ which indicates the downlink activation time and new integrity protection configuration,~~.~~ ~~T~~the UE shall apply the old ciphering configuration before the stated downlink activation time. It shall start to decipher using the new ciphering configuration at the downlink activation time.

3. After the UE transmit the SECURITY MODE COMPLETE message using the new integrity protection configuration which includes uplink activation time, it starts to cipher transmission in the uplink using the new configuration at the uplink activation time. ~~It shall transmit a SECURITY MODE COMPLETE message, which includes uplink activation time, and configure the downlink reception using new ciphering configuration at the beginning of downlink activation time.~~

Reference

3GPP TS 25.331 clause 8.1.12

8.1.7.3 Test purpose

To confirm that the UE correctly communicates to the UTRAN and activates the new ciphering configurations after the stated activation time. To confirm that after the UE receives a SECURITY MODE COMMAND message, it transmits a SECURITY MODE COMPLETE message to the UTRAN using the old ciphering configuration together with the application of the new integrity protection configuration.

8.1.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the RRC connected state CELL_DCH. The SS transmits a SECURITY MODE COMMAND message in which ciphering is requested to be activated, but the IE”Ciphering algorithm” is set to an unknown value. The UE shall not trigger any ciphering algorithm and it shall respond by sending SECURITY MODE FAILURE message on the DCCH. Next, SS transmits a valid SECURITY MODE COMMAND message which includes the “~~d~~Downlink activation time” IE for ~~RB1,~~ RB2~~,RB 3 and RB 4~~ and “Integrity check

info" IE. Then the UE shall check the integrity check info and shall start to configure ciphering in downlink and transmits a SECURITY MODE COMPLETE message which contains the uplink activation time for ~~RB1,~~RB2,~~RB 3 and RB 4~~ and also "Integrity check info" IE. SS records the uplink ciphering activation time for RB 2. Next, SS transmits COUNTER CHECK message repeated on the downlink DCCH using RLC-AM mode. The UE shall respond to each downlink message with a COUNTER CHECK RESPONSE message on the uplink DCCH using RLC-AM. This cycle repeats itself until both the uplink and downlink ciphering activation time for RB 2 has elapsed. SS checks all uplink COUNTER CHECK RESPONSE messages are integrity-protected by UIA algorithm, and that the messages contain the correct values for "Integrity mode info" IE. After both the uplink and downlink ciphering activation time for RB 2 has passed, ~~T~~the UE shall be able to communicate with the SS ~~in the downlink direction after the downlink activation time has passed. Moreover, it shall apply the ciphering algorithm in the uplink direction~~. This can be verified in SS through the reception of a correctly ciphering and integrity-protected COUNTER CHECK RESPONSE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				RRC connected state on DCCH
2		←	SECURITY MODE COMMAND	IE "Ciphering Algorithm" is set to an invalid value
3		→	SECURITY MODE FAILURE	IE "Failure Cause" should be set to "Protocol Error" and IE "Protocol Error Information" should be set to "Information element value not comprehended".
4		←	SECURITY MODE COMMAND	See specific message contents.
5		→	SECURITY MODE COMPLETE	SS verifies that this message is sent unciphered. SS records the uplink ciphering activation time for RB 2.
6		←	COUNTER CHECK	SS repeats step 6 and step 7 until its internal uplink and downlink RLC SN have both surpassed the uplink and downlink ciphering activation time specified for RB2. This message is sent on the downlink DCCH using RLC-AM. See specific message content.
7		→	COUNTER CHECK RESPONSE	UE shall send this message on the uplink DCCH using RLC-AM. See specific message content.
~~6~~8				~~In uplink direction, SS checks that all data from RB1,RB2,RB 3 and RB 4 are ciphered. In the downlink direction, SS verifies that data are ciphered only after the RLC sequence numbers indicated in step 4 have elapsed.~~SS verifies that the last COUNTER CHECK RESPONSE message is both integrity-protected and ciphered correctly.

Specific Message Contents

SECURITY MODE COMMAND (Step 2)

See notes below for the value of Y.

Information Element	Value/remark
Integrity check info	
Message authentication code	Calculated result in SS
RRC Message sequence number	0
Security Capability	
Ciphering algorithm capability	Spare value
Integrity protection algorithm capability	Spare value
Ciphering mode info	
Ciphering mode command	Start
Activation time for DPCH	Not Present
Radio bearer downlink ciphering activation time info	~~4RBs~~
~~RB Identity~~	~~1~~
~~RLC sequence number~~	~~Current RLC SN + 2~~
RB Identity	2
RLC sequence number	Current RLC SN + ~~2~~Y
~~RB Identity~~	~~3~~
~~RLC sequence number~~	~~Current RLC SN + 2~~
~~RB Identity~~	~~4~~
~~RLC sequence number~~	~~Current RLC SN + 2~~
Integrity protection mode info	
Integrity protection mode command	Start
Downlink integrity protection activation info	Not Present
Integrity protection algorithm	If integrity is indicated to be active on IXIT statements in TS 34.123-2, use one of the supported integrity algorithms
Integrity protection initialisation number	0000 0000 0000 0000 H (FRESH)
CN domain identity	Supported domain
~~Ciphering mode info~~	
~~Ciphering mode command~~	~~Start~~
~~Security capability~~	~~1 of the 15 spare values~~
~~Activation time for DPCH~~	~~Not Present~~
~~Activation Time~~	
~~Radio bearer downlink ciphering activation time info~~	
~~Radio bearer activation time~~	~~2 RBs~~
~~RB identity$_1$~~	~~3~~
~~RLC sequence number$_1$~~	~~Current RLC SN + 2~~
~~RB identity$_2$~~	~~4~~
~~RLC sequence number$_2$~~	~~Current RLC SN + 2~~

SECURITY MODE COMMAND (Step 4)

See notes below for the value of Y.

Information Element	Value/remark
~~Ciphering mode command~~	~~Start~~
~~Security capability~~	
~~Ciphering algorithm capability~~	~~0000000000000001B(UEA1)~~
~~Integrity protection algorithm capability~~	~~0000000000000001B(UEA1)~~
~~Activation time for DPCH~~	~~Not present~~
~~Activation time~~	
~~Security Capability~~~~Radio bearer downlink ciphering activation time info~~	~~2 RBs~~ ~~3~~
~~Radio bearer activation time~~	~~Current RLC SN+2~~
~~RB identity~~$_1$	~~4~~
~~RLC sequence number~~$_1$	~~Current RLC SN+2~~
~~RB identity~~$_2$	
~~RLC sequence number~~$_2$	Calculated result in SS
Integrity check info	0
Message authentication code	
RRC Message sequence number	If ciphering is indicated to be active on IXIT statements in TS 34.123-2, use one of the supported ciphering algorithms~~0000000000000010B(UEA1)~~ 0000000000000010B(UIA1) Start
Security Capability	
Ciphering algorithm capability	
Integrity protection algorithm capability	Not Present
Ciphering mode info	~~4RBs~~
Ciphering mode command	~~1~~
Activation time for DPCH	~~Current RLC SN + 2~~
Radio bearer downlink ciphering activation time info	2
~~RB Identity~~	Current RLC SN + ~~2~~Y
~~RLC sequence number~~	~~3~~
RB Identity	~~Current RLC SN + 2~~
RLC sequence number	4
~~RB Identity~~	~~Current RLC SN + 2~~
~~RLC sequence number~~	Start
~~RB Identity~~	Not Present
~~RLC sequence number~~	If integrity is indicated to be active on IXIT statements in TS 34.123-2, use one of the supported integrity algorithms
Integrity protection mode info	
Integrity protection mode command	0000 0000 0000 0000 H (FRESH)
Downlink integrity protection activation info	Supported domain
Integrity protection algorithm	
Integrity protection initialisation number	
CN domain identity	

SECURITY MODE COMPLETE (Step 5)

Information Element	Value/remark
Integrity check info	
- Message Authentication code	Checked to see if present
- RRC Message sequence number	Checked to see if present
Uplink integrity protection activation info	
- RRC message sequence number list	Check to see if it the RRC SN for RB 0 to RB 4 are present
Radio bearer uplink ciphering activation info	
- RB Identity	2
- RLC sequence number	SS records this value. See step 8 in 'expected sequence'

COUNTER CHECK (Step 6)

Information Element	Value/remark
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	2
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#2 in uplink
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#2 in downlink

COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark
Integrity check info	Checked to see if the MAC code match
RB COUNT-C information	Check to if this IE is absent
- RB identity	
- COUNT-C uplink	
- COUNT-C downlink	

Note:

Y = 2 * (size of COUNTER CHECK message, after PER encoding). The unit of Y is the number of RLC-AM PDU.

8.1.7.5 Test requirement

After step 2 the UE shall transmit a SECURITY MODE FAILURE message to report the protocol error detected in the ~~earlier~~ first SECURITY MODE COMMAND message. The UE shall be able to communicate normally with the SS, with all control data on the signalling radio bearers unciphered.

After step 4 the UE shall RLC-acknowledge the receipt of the SECRUITY MODE COMMAND message using unciphered mode and which includes calculated integrity check info. SS checks that the SECURITY MODE COMPLETE message is received unciphered and that the calculated "integrity check info" IE is correct.

~~After step 5 SS verifies that downlink control data from RB1,RB2,RB 3 and RB 4 are ciphered using UEA1 algorithm, after the RLC sequence numbers as a downlink activation time stated in step 4 have elapsed. In the uplink direction, the UE shall start to cipher on the uplink after the RLC sequence number as an uplink activation time stated in step 5 has elapsed.~~

After step 5 SS verifies that all uplink signalling messages on RB1, RB2, RB3 and RB4 are integrity protected with UIA1 algorithm.

After step 7 SS verifies that the last COUNTER CHECK RESPONSE message received is integrity protected with UIA algorithm and ciphered with the algorithm indicated in the second SECURITY MODE COMMAND (Step 4) message.

8.1.8 Counter check

Definition

8.1.8.2 Conformance requirement

When the UE receives a COUNTER CHECK message that includes matched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and omitting "RB COUNT-C information" IE in this message.

When the UE receives a COUNTER CHECK message that includes any mismatched COUNT-C MSB values, the UE shall transmit a COUNTER CHECK RESPONSE message on the uplink DCCH and specifies the current COUNT-C information of the RAB(s) with mismatched values.

Reference

3GPP TS 25.331 clause 8.1.15

8.1.8.3 Test purpose

To confirm that the UE transmits a COUNTER CHECK RESPONSE message after it receives a COUNTER CHECK message from the SS. To confirm that the UE responds to the reception of an invalid downlink COUNTER CHECK message by transmitting a RRC STATUS message on the uplink DCCH, stating the correct error cause value in message.

8.1.8.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH state

Test Procedure

The UE is brought to the CELL_DCH state after a successful outgoing call attempt. The SS transmits an erroneous COUNTER CHECK message. The content of this message is a concatenation of the message type IE and an arbitrary 32-bits string. The UE shall detect a protocol error and send RRC STATUS message to report this event. Next, the SS transmits a COUNTER CHECK message that includes the current COUNT-C MSB information in each radio access bearer. The UE shall react by sending a COUNTER CHECK RESPONSE message on the uplink DCCH, which does not include "RB COUNT-C information" IE. The SS transmits a COUNTER CHECK message which includes the current COUNT-C MSB information reversed all the bits in each radio bearer. The UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH, specifying the current COUNT-C information for each radio access bearer established.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state after an outgoing call has been established successfully.
2	←		COUNTER CHECK	This message contains an arbitrary 32-bits pattern, following the IE "Message Type"
3	→		RRC STATUS	UE shall detect a protocol error and then transmit this message.
4	←		COUNTER CHECK	See specific message content.
5	→		COUNTER CHECK RESPONSE	The message shall not include the IE "RB COUNT-C information".
6	←		COUNTER CHECK	See specific message content.
7	→		COUNTER CHECK RESPONSE	The message shall include the IE"RB COUNT-C information".

Specific Message Contents

COUNTER CHECK (Step 2)

Information Element	Value/remark
Unknown bit pattern	An arbitrary 32-bits string

RRC STATUS (Step 3)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	Checked to see if set to "ASN.1 violation or encoding" or "conditional information element error"

COUNTER CHECK (Step 4)

Information Element	Value/remark
Integrity check info	Calculated value
RB COUNT-C MSB information	
- RB identity	5
- COUNT-C MSB uplink	Current COUNT-C MSB for RB#5 in uplink
- COUNT-C MSB downlink	Current COUNT-C MSB for RB#5 in downlink

COUNTER CHECK RESPONSE (Step 5)

Information Element	Value/remark
Integrity check info	Not checked
RB COUNT-C information	Check to if this IE is absent
- RB identity	
- COUNT-C uplink	
- COUNT-C downlink	

COUNTER CHECK (Step 6)

Information Element	Value/remark
RB COUNT-C MSB information	
- RB identity	Check to see if set to 4
- COUNT-C MSB uplink	Toggle all bits of the current COUNT-C MSB in uplink for RB#5
- COUNT-C MSB downlink	Toggle all bits of the current COUNT-C MSB in downlink for RB#5

COUNTER CHECK RESPONSE (Step 7)

Information Element	Value/remark
Integrity check info	Not checked
RB COUNT-C information	
- RB identity	Check to see if set to 5
- COUNT-C uplink	Check to see if set to Current COUNT-C for RB#5 in uplink
- COUNT-C downlink	Check to see if set to COUNT-C for RB#5 in downlink

8.1.8.5 Test requirement

After step 2, the UE shall transmit a RRC STATUS message on the uplink DCCH. The protocol error cause shall be set to “ASN.1 violation or encoding” or “conditional information element error”.

After step 4 the UE shall transmit a COUNTER CHECK RESPONSE message which does not includes the IE”RB COUNT-C information” to indicates that a matched comparison result is obtained.

After step 6, the UE shall transmit a COUNTER CHECK RESPONSE message which includes the IE”RB COUNT-C information” to report that a mismatch in COUNT-C value is detected in RB#5.

8.1.9 Signalling Connection Release Request

8.1.9.1 Definition

8.1.9.2 Conformance requirement

The UE shall initiate the signalling connection release procedure when the higher layer entities in the UE request to release one or more signalling session (one example of such case is location update failure). In this case, the UE shall transmit a SIGNALLING CONNECTION RELEASE REQUEST message, which includes the flow identifier of the signalling flow to be released.

Reference

3GPP TS 25.331 clause 8.1.14

8.1.9.3 Test purpose

To confirm that the UE transmits a SIGNALLING CONNECTION RELEASE REQUEST message after it fails to receive a response for the LOCATION UPDATING REQUEST message.

8.1.9.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : Switched off

Test Procedure

The UE is turned on and it shall find a suitable cell to camp on. The UE shall initiate a location updating procedure. The UE shall establish an RRC connection and transmits a LOCATION UPDATING REQUEST message using the INITIAL DIRECT TRANSFER message. The SS does not respond to this message, and the UE shall send a SIGNALLING CONNECTION RELEASE REQUEST message which includes the flow identifier with the same value as that in the INITIAL DIRECT TRANSFER message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is powered on.
2	→		RRC CONNECTION REQUEST	UE shall initiate the location updating procedure.
3	←		RRC CONNECTION SETUP	
4				The UE configures the layer 2 and layer 1.
5	→		RRC CONNECTION SETUP COMPLETE	
6	→		INITIAL DIRECT TRANSFER (LOCATION UPDATING REQUEST)	LOCATION UPDATE REQUEST is embedded in this message transmission.
7				The SS does not respond and waits until the timer for location update procedure expires.
8	→		SIGNALLING CONNECTION RELEASE REQUEST	

Specific Message Content

SIGNALLING CONNECTION RELEASE REQUEST (Step 8)

Information Element	Value/remark
Flow Identifier	Check to see if this value is the as same as in the uplink INITIAL DIRECT TRANSFER message.

8.1.9.5 Test requirement

After step 1 the UE shall initiate the LOCATION UPDATING procedure and establish an RRC connection.

After step 7 the UE shall transmit a SIGNALLING CONNECTION RELEASE REQUEST message which includes the same flow identifier as that found in the INITIAL DIRECT TRANSFER message.

8..2 Radio Bearer control procedure

8..2.1 Radio Bearer Establishment

8..2.1.1 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success(Data integrity protection algorithm is not applied)

8.2.1.1.1 Definition

8..2.1.1.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

(This is the case where data integrity protection algorithm is not applied.)

Reference

3GPP TS 25.331 clause 8.2.1

8.2.1.1.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8..2.1.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state, after the test operator is prompted to make an out-going call. Before step 1, only signalling radio bearers have been established. The SS transmits a RADIO BEARER SETUP message to the UE after it sets up L1 including the start of tx/rx. This message requests the establishment of RABs for carrying the traffic of the speech call. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	This message do not contain IE "integrity check info" and "integrity protection mode info"
2	→		RADIO BEARER SETUP COMPLETE	This message do not contain "integrity check info" and "Uplink integrity activation info
3				To confirm the communication.

Specific Message Contents

For RADIO BEARER SETUP in step 1, using the message sub-type indicated as "Speech in CS" or "Packet to CELL_DCH from CELL_DCH in PS" found in default message content clause.

8..2.1.1.5 Test requirement

After step2 the UE shall communicate with the SS on the radio bearer for its implementation.

8.2.1.2 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success(Effected Data integrity protection algorithm)

8.2.1.2.1 Definition

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8.2.1.2.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message, which applies data integrity function, and then communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 clause 8.2.1, 8.5.11.

8.2.1.2.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message which contains IE“Integrity check info” and IE”Integrity protection mode info” received from the SS.

8..2.1.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH and data integrity algorithm is not applied

Test Procedure

The UE is in the CELL_DCH state, after the test operator is prompted to make an out-going data call. Before step 1, only signalling radio bearers have been established. The SS transmits a RADIO BEARER SETUP message which is including IE”integrity check info” and “integrity protection mode info” to the UE after it sets up L1 including the start of tx/rx. This message requests the establishment of RABs for carrying the traffic of the call. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message which is including IE”integrity check info” using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1	←		RADIO BEARER SETUP	This message contain IE “integrity check info” and “integrity protection mode info”
2	→		RADIO BEARER SETUP COMPLETE	This message contain “integrity check info”
3				To confirm the communication.

Specific Message Contents

For RADIO BEARER SETUP in step 1, using the message sub-types indicated as “Speech in CS” or “Packet to CELL_DCH from CELL_DCH in PS” as found in default message content clause.

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to identical message sub-type found in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
Integrity check info	
- Message authentication code	Bit string (32) MAC-I See TS33.102
- RRC Message sequence number	0
Integrity protection mode info	Present
- Integrity protection mode command	"Start"
- Downlink integrity protection activation info	Not present (It is needed only when the IE"Integrity protection mode command" has the value "modify" .)
- integrity protection algorithm	~~"0001$_2$";~~ UIA1~~, Kasumi~~
- integrity protection initialisation number	Bit string (32) FRESH See TS33.102

RADIO BEARER SETUP COMPLETE

Information Element	Value/remark
Integrity check info	
- Message authentication code	Not checked(MAC-I See TS33.102)
- RRC Message sequence number	Not checked
Uplink Integrity protection activation info	Not checked
Hyper Frame Number	Not checked

8..2.1.2.5 Test requirement

After step2 the UE shall communicate with the SS on the radio bearer for its implementation. This can be verified by the correct reproduction of the u-plane data transmitted and received between the test operator and SS.

8..2.1.3 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.1.3.1 Definition

8..2.1.3.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message which includes unsupported configuration parameters and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration un~~acceptable~~supported" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.3.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message in case of receiving a RADIO BEARER SETUP message which includes parameters of its unsupported configuration.

8..2.1.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message as the frequency cannot be supported by the UE. After the UE receives this message, it transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	Including the unsupported configuration for the UE.
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to those in default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 16383. Not Present.

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8..2.1.3.5 Test requirement

?After step1 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8..2.1.4 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)

8.2.1.4.1 Definition

8.2.2.1.4.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer by the T312 expiry and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.4.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE fails to configure the new radio bearer following detection of physical channel failure after T312 expiry.

8..2.1.4.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE and does not configure the new radio bearer. Then after T312 expiry, the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “physical channel failure” in IE” failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	The SS does not configure the new radio bearer stated in the message.
2				The UE does not configure the new radio bearer and reverts to the old configuration.
3	→		RADIO BEARER SETUP FAILURE	UE shall transmit this message using the old RRC signalling bearer operating in RLC-AM mode.

Specific Message Contents

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8..2.1.4.5 Test requirement

?After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “physical channel failure” in IE” failure cause”.

8..2.1.5 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Physical channel Failure and reversion failure)

8.2.1.5.1 Definition

8..2.1.5.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer establishment procedure.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.5.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot establish the new radio bearer for the L1 configuration and cannot revert to the old configuration.

8..2.1.5.4 Method of test

Initial Condition

System Simulator : 2 cells- Cell 1 is active, Cell 2 is inactive

UE : CELL_DCH in cell No.1

Test Procedure

The UE is in the CELL_DCH state in cell 1.The SS begins to broadcast the BCCH in cell 2, with a power level suitable for camping but lower than that of cell 1. Next, SS transmits a RADIO BEARER SETUP message to the UE. As the SS does not configure the new radio bearer and deletes the old configuration the UE fails to configure L1 and fails to revert to the old configurationThen the UE shall find cell 2 and transmits to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes the IE"U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS transmits a BCCH in cell 2 but with a lower power level than in cell 1.
2		←	RADIO BEARER SETUP	The SS does not configure the new radio bearer and delete the old configuration.
3				The UE shall detect a failure to configure the new radio bearers and also subsequently, cannot revert to old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall detect the presence of cell.2and transmits this message which includes the IE"U-RNTI" it has been assigned to.
5		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8..2.1.5.5 Test requirement

After step3 the UE shall find a new cell 2, enter CELL_FACH state, and transmit RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

After step6 the UE shall re-establish an RRC connection in cell 2.

8..2.1.6 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.1.6.1 Definition

8..2.1..6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message and the UE shall transmit an RRC STATUS message on the DCCH using AM RLC which is set to"incompatible simultaneous reconfiguration" in IE"failure case".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.6.3 Test purpose

To confirm that the UE keeps its configuration and transmits an RRC STATUS message when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message.

8..2.1.6.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER SETUP message to the UE before the UE configures the radio bearer the UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	Including IE”Uplink DPCH info”
2	←		RADIO BEARER SETUP	SS send this message before the expiry of activation time specified in RADIO BEARER SETUP message of step 1.
3	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

For RADIO BEARER SETUP in step 1, use the message sub-type indicated as “Speech in CS” found in Annex A, with the exception of the following Information Elements:

RADIO BEARER SETUP (Step 1)

Information Element	Value/remark
Activation Time	[256+Current CFN-[current CFN mod 8 + 8]]MOD 256

RADIO BEARER SETUP (Step 2)

For RADIO BEARER SETUP in step 2, use the message sub-type indicated as “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A, with the exception of the following Information Elements:

Information Element	Value/remark
Activation Time	Not Present

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure case	Incompatible simulteneous reconfigration
Other information element	Not checked

8..2.1.6.5 Test requirement

After step2 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE”failure cause”.

8..2.1.7 Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception)

8.2.1.7.1 Definition

8..2.1.7.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message, which includes the spare value in the mandatory IE" DRX indicator" and criticality is defined as "Reject". Then it transmits a RADIO BEARER SETUP FAILURE message which is set to "protocol error" in IE" failure cause" and is set to "Information element value not comprehended" in IE" Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.7.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER SETUP message which indicates the spare value in the mandatory IE" DRX indicator" whose criticality is defined as "Reject".

8..2.1.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message to the UE which indicates a spare value in the mandatory IE" DRX indicator" whose criticality is defined as "Reject". The UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE" failure cause", and is set to "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to that of default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8..2.1.7.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE" failure cause" and set to "Information element value not comprehended" in IE" Protocol error cause".

8..2.1.8 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Success

8.2.1.8.1 Definition

8..2.1.8.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.8.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8..2.1.8.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state, after the test operator is asked to initiate a packet-switched data call. The SS transmits a RADIO BEARER SETUP message to the UE after it sets up L1. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	SS requests test operator to make an outgoing packet-switched data call.
2	→		RADIO BEARER SETUP COMPLETE	
3				To confirm the communication between UE and SS, based on the exchange of packets.

Specific Message Contents

For RADIO BEARER SETUP message in step 1, use the message sub-type indicated as “Packet to CELL_DCH from CELL_FACH in PS” found in default message content clause.

8..2.1.8.5 Test requirement

After step2 the UE shall communicate with the SS on the radio bearer for its implementation.

8..2.1.9 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.1.9.1 Definition

8..2.1.9.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message, which indicates an unsupported configuration parameters and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.9.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message in case of receiving a RADIO BEARER SETUP message which includes parameters of unsupported configuration.

8..2.1.9.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER SETUP message specifying a frequency that cannot be supported by the UE. After the UE receives this message, it transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	Including the unsupported configuration for the UE.
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to that of default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 16384. Not present

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8..2.1.9.5 Test requirement

After step1 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting value "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8..2.1.10 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Failure (Physical channel Failure)

8.2.1.10.1 Definition

8..2.1.10.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE failed to access the assigned physical channel according to a RADIO BEARER SETUP message when transiting from CELL_DCH state to CELL_FACH state.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.10.3 Test purpose

To confirm that the UE perform a cell update procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER SETUP message as it transits from CELL_DCH to CELL_FACH.

8..2.1.10.4 Method of test

Initial Condition

System Simulator : 2 cells- Cell 1 is active, Cell 2 is inactive

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and transmits a RADIO BEARER SETUP message as the transition occurs from CELL_DCH to CELL_FACH. The UE cannot access the assigned physical channel, as the SS does not transmit any data on the downlink common channel in cell 1. Then the UE shall initiate the cell update procedure in cell 2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS broadcasts BCCH in cell No. 2.
2		←	RADIO BEARER SETUP	Assigned the transition from CELL_DCH to CELL_FACH
3				The UE cannot use the assigned the physical channel.
4		→	CELL UPDATE	The UE finds a new cell 2and begins a cell update procedure.
5		←	CELL UPDATE CONFIRM	In the CELL_FACH state

Specific Message Contents

None

8..2.1.10.5 Test requirement

After step3 the UE shall find a new cell No.2 and enter to CELL_FACH state. Then the UE shall initiate a cell update procedure in cell No.2.

8..2.1.11 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.1.11.1 Definition

8..2.1.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message. The UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.11.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message.

8..2.1.11.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS sends a RADIO BEARER SETUP message to request the UE to perform radio bearer establishment procedure. Before the UE can complete the configuration of the radio bearer, the SS transmits another RADIO BEARER SETUP message. The UE shall keep the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE"failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	Message includes IE"PRACH info (for RACH)"
2		←	RADIO BEARER SETUP	Message includes the IE "Uplink DPCH info"
3		→	RADIO BEARER SETUP FAILURE	The UE does not change the configuration. UE shall not have access to the DTCH channel indicated in the RADIO BEARER SETUP messages of step 1 and step 2.

Specific Message Contents

RADIO BEARER SETUP (Step 1)

For this message, use the message sub-type entitled "Packet to CELL_FACH from CELL_DCH in PS" in the default message content. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER SETUP (Step 2)

For this message, use the message sub-type entitled “Packet to CELL_DCH from CELL_DCH in PS” in the default message content. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Not Present.

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8..2.1.11.5 Test requirement

After step2 the UE shall keep its configuration and not access any of the DTCH traffic channels specified in either of the RADIO BEARER SETUP message. It shall transmit an RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE”failure cause”.

8..2.1.12 Radio Bearer Establishment for transition from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.1.12.1 Definition

8..2.1.12.2 Conformance requirement

The UE shall keep its old configuration when it receives a RADIO BEARER SETUP message, which includes the spare value in the mandatory IE” DRX indicator” with criticality defined as “Reject”. It shall then transmit a RADIO BEARER SETUP FAILURE message which is set to “protocol error” in IE” failure cause” and also contains value “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.12.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if the received a RADIO BEARER SETUP message, which includes the spare value in the mandatory IE” DRX indicator” with criticality defined as “Reject”.

8..2.1.12.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state, after the test operator makes an outgoing packet-switched data call. The SS transmits a RADIO BEARER SETUP message to the UE which includes the spare value in the mandatory IE” DRX indicator” with criticality defined as “Reject”. The UE shall keep the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. The value “protocol error” shall be set in IE” failure cause” and also value “Information element value not comprehended” set in IE” Protocol error cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	SS sends this message which contains an error in the IE"DRX Indicator".
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical the message sub-type indicated by "Packet to CELL_FACH from CELL_DCH in PS" in the default contents clause of layer 3 messages for RRC tests. The following exceptions should be applied:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8..2.1.12.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE" failure cause" and is set to "Information element value not comprehended" in IE" Protocol error cause".

8..2.1.13 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Success

8.2.1.13.1 Definition

8..2.1.13.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.13.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8..2.1.13.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state, after SS prompts the test operator to initiate a packet-switched data call. The SS transmits a RADIO BEARER SETUP message to the UE after it sets up L1 including the start of tx/rx. After the UE receives this message, it configures them and establishes the required radio bearers. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	
3				To confirm the communication

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical the message sub-type indicated by “Packet to CELL_DCH from CELL_FACH in PS” in the default contents clause of layer 3 messages for RRC tests.

8..2.1.13.5 Test requirement

After step2 the UE shall communicate with the SS using the radio bearer indicated in RADIO BEARER SETUP message. Particularly, SS should be able to receive packet data using a terminal equipment (TE) attached to the UE.,.

8..2.1.14 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.1.14.1 Definition

8..2.1.14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message which includes an unsupported configuration and then transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, which sets value “configuration ~~unacceptable~~unsupported” in IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.14.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message in case of it receiving a RADIO BEARER SETUP message, which includes parameters of an unsupported configuration.

8..2.1.14.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message with a stated frequency that cannot be supported by the UE. After the UE receives this message, it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC setting value "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	This message includes an unsupported configuration for the UE.
2	→		RADIO BEARER SETUP FAILURE	The UE shall transmit this message using RLC-AM mode and do not change the current configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 0 Not Present

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8..2.1.14.5 Test requirement

After step1 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8..2.1.15 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and successful reversion to old configuration)

8.2.1.15.1 Definition

8..2.1.15.2 Conformance requirement

The UE shall attempt to revert to the old configuration when the UE fails to configure the new radio bearer by the T312 expiry. It shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC containing value "physical channel failure" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.15.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE fails to configure the new radio bearer when it detects physical channel failure, followed by the T312 expiry.

8..2.1.15.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message to the UE and does not configure the new radio bearer. After T312 expiry, the UE shall revert to the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. The content of the message shall indicate “physical channel failure” in IE” failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	The SS does not configure a new radio bearer.
2				The UE does not configure a new radio bearer but reverts to the old configuration.
3	→		RADIO BEARER SETUP FAILURE	

Specific Message Contents

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8..2.1.15.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “physical channel failure” in IE” failure cause”.

8..2.1.16 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Physical channel Failure and reversion failure)

8.2.1.16.1 Definition

8..2.1.16.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer establishment procedure.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.16.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot establish the new radio bearer for the L1 configuration and subsequently fail to revert to the old configuration.

8..2.1.16.4 Method of test

Initial Condition

System Simulator : 2 cells- Cell 1 is active, Cell 2 is inactive

UE : CELL_FACH in cell 1

Test Procedure

The UE is in the CELL_FACH state in cell 1.The SS begins to broadcast the BCCH in cell 2 but with a transmission level lower than that for cell 1. It then transmits a RADIO BEARER SETUP message to the UE from cell 1.Then the SS deletes the old downlink channel configuration after sending this message. This causes the UE to fail to configure L1 and could not revert to the old configuration. The UE shall find the presence of cell 2 and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message. The message shall include the IE"U-RNTI" and sent on the uplink CCCH. The SS responds with an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS transmits the BCCH in cell 2, but with a power level lower that that in cell 1.
2		←	RADIO BEARER SETUP	The SS does not configure the new radio bearer and instead delete the old configuration.
3				The UE cannot configure a new radio bearer and cannot revert to old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall findthe presence of cell2It shall then transmit this message including its assigned U-RNTI in the IE"U-RNTI".
5		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

RADIO BEARER SETUPThe contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type "Packet to CELL_DCH from CELL_FACH in PS" found in the default contents of layer 3 messages for RRC tests.

RRC CONNECTION RE-ESTABLISHMENT REQUEST

Information Element	Value/remark
U-RNTI	Set to assigned UE U-RNTI in RRC CONNECTION SETUP message.
Protocol error indication	FALSE

RRC CONNECTION RE-ESTABLISHMENT COMPLETE

Information Element	Value/remark
Radio bearer uplink ciphering activation time info	Not Present
RB with PDCP information list - RB with PDCP information list	Not Present

8..2.1.16.5 Test requirement

After step3 the UE shall find the presence of cell 2, which is suitable for camping. It shall then enter CELL_FACH state and transmit a RRC CONNECTION RE-ESTABALISHMENT REQUEST message to prevent the RRC connection from being lost.

After step6 the UE shall re-establish an RRC connection, using the new TFCS settings specified in RRC CONNECTION RE-ESTABLISHMENT message

8..2.1.17 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.1.17.1 Definition

8..2.1.17.2 Conformance requirement

The UE shall keep its old configuration, when it receives another RADIO BEARER SETUP message before it can complete the configuration of the radio bearer according to the first RADIO BEARER SETUP message. The UE shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC with value “Incompatible simultaneous reconfiguration” set in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.17.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE receives another RADIO BEARER SETUP message, before the UE configures the radio bearer according to an earlier RADIO BEARER SETUP message.

8..2.1.17.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state.The SS transmits a RADIO BEARER SETUP message, requesting the UE to setup radio bearers using DPCH physical channels. The activation time of this event is specified to be 255 frames from the SS’s current CFN. However, SS sends another RADIO BEARER SETUP message before 255 frames has passed. The UE shall then abandon its current reconfiguration operation, keep the old configuration, and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. This message shall contain the value “Incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	Including IE”Uplink DPCH info”
2	←		RADIO BEARER SETUP	
3	→		RADIO BEAER SETUP FAILURE	The UE does not change the configuration and transmit this message on its uplink DCCH using the same RLC-AM mode radio bearer before step 1.

Specific Message Contents

RADIO BEARER SETUP (for Step 2)

For this message, use the message sub-type entitled “Packet to CELL_DCH from CELL_FACH in PS” in the default message content. Information element(s) to be changed are listed below:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8..2.1.17.5 Test requirement

After step2 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE”failure cause”.

8..2.1.18 Radio Bearer Establishment for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.1.18.1 Definition

8..2.1.18.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message, which includes the spare value in the mandatory IE” DRX indicator” having criticality defined as “Reject”. It shall transmit a RADIO BEARER SETUP FAILURE message which set value “protocol error” in IE” failure cause” and also value “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.18.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER SETUP message, with a spare value in the mandatory IE” DRX indicator” and having criticality defined as “Reject”.

8.2.118.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in CELL_FACH state. The SS transmits a RADIO BEARER SETUP message to the UE which includes a spare value in the mandatory IE” DRX indicator” with criticality defined as “Reject”. The UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. This message shall specify “protocol error” in IE” failure cause” and also set the value “Information element value not comprehended” in IE” Protocol error cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8..2.1.18.5 Test requirement

After step1 the UE shall keep its old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC. The message shall indicate the reason of failure as “protocol error” in IE” failure cause” and set the value“Information element value not comprehended” in IE” Protocol error cause”.

8..2.1.19 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Success

8.2.1.19.1 Definition

8..2.1.19.2 Conformance requirement

The UE shall correctly set up a radio bearer according to a RADIO BEARER SETUP message and communicate with the UTRAN for its implementation.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.19.3 Test purpose

To confirm that the UE establishes a new radio bearer according to a RADIO BEARER SETUP message received from the SS.

8..2.1.19.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state, after the test operator is being prompted to make an outgoing packet-switched call. The SS transmits a RADIO BEARER SETUP message to the UE after it sets up L1 including the start of tx/rx. After the UE receives this message, it configures them and establishes a radio bearer. Finally the UE transmits a RADIO BEARER SETUP COMPLETE message using AM RLC. Then the UE and the SS enters the communicating state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	
2	→		RADIO BEARER SETUP COMPLETE	
3				To confirm the proper establishment of the new radio bearer by checking the packet data exchanged between the SS and a TE attached to the UE.

Specific Message Contents

RADIO BEARER SETUP

For this message, use the message sub-type entitled “Packet to CELL_FACH from CELL_FACH in PS” in the default message content.

8..2.1.19.5 Test requirement

After step2 the UE shall communicate with the SS using the new radio bearer , this can be confirmed by the exchange of packet data between a terminal equipment (TE) attached to the UE and the SS,

8..2.1.20 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.1.20.1 Definition

8..2.1.20.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message which includes an unsupported configuration and it shall transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC setting the value “configuration ~~unacceptable~~unsupported” into IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.20.3 Test purpose

To confirm that the UE keeps its original configuration and transmits a RADIO BEARER SETUP FAILURE message when it receives a RADIO BEARER SETUP message indicating an unsupported configuration.

8..2.1.20.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message specifying a frequency which is not supported by the UE. After the UE receives this message, it transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “configuration ~~unacceptable~~unsupported” in IE” failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	Including the unsupported configuration for the UE.
2	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63947 Not present

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8..2.1.20.5 Test requirement

After step1 the UE shall keep its configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC and set value "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8..2.1.21 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.1.21.1 Definition

8..2.121.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message and the UE shall transmit a RADIO BEAER SETUP FAILURE message on the DCCH using AM RLC which is set to "Incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.21.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER SETUP FAILURE message when the UE receives another RADIO BEARER SETUP message before the UE configures the radio bearer according to a RADIO BEARER SETUP message.

8..2.1.21.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER SETUP message to the UE before the UE configures the radio bearer the UE keeps the old configuration and transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER SETUP	Including IE”Uplink DPCH info”
2	←		RADIO BEARER SETUP	
3	→		RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8..2.1.21.5 Test requirement

After step2 the UE shall keep its configuration and transmit an RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC which is set to “Incompatible simultaneous reconfiguration” in IE”failure cause”.

8..2.1.22 Radio Bearer Establishment for transition from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.1.22.1 Definition

8..2.1.22.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER SETUP message, which includes a spare value for the mandatory IE” DRX indicator” having criticality defined as “Reject”. It shall then transmit a RADIO BEARER SETUP FAILURE message stating the reason “protocol error” in IE” failure cause” and also set value “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.1

8..2.1.22.3 Test purpose

To confirm that the UE transmits a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER SETUP message specifying a spare value in the mandatory IE” DRX indicator”

8..2.1.22.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER SETUP message to the UE and includes the spare value in the mandatory IE" DRX indicator". The UE shall keep the old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC, setting the value "protocol error" in IE" failure cause". The error type "Information element value not comprehended" shall also be indicated in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER SETUP	
2		→	RADIO BEARER SETUP FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER SETUP

The contents of RADIO BEARER SETUP message in this test case is identical to the message sub-type "Packet to CELL_FACH from CELL_FACH in PS ", which is found in the default contents clause of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER SETUP FAILURE

The expected content of RADIO BEARER SETUP FAILURE message is shown below:

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8..2.1.22.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER SETUP FAILURE message on the DCCH using AM RLC setting "protocol error" in IE" failure cause" and setting "Information element value not comprehended" in IE" Protocol error cause".

8..2.2 Radio Bearer Reconfiguration

8.2.2.1 Radio Bearer Reconfiguration (Hard handover) from CELL_DCH to CELL_DCH: Success

8.2.2.1.1 Definition

8.2.2.1.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer and L1 according to the RADIO BEARER RECONFIGURATION message, which specifies a hard handover to another radio frequency. After executing the reconfiguration, the UE shall be able to communicate with the UTRAN on the newly configred radio bearer.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.1.3 Test purpose

To confirm that the UE reconfigures a new radio bearer by following a RADIO BEARER RECONFIGURATION message, which indicates a hard handover to another radio frequency.

8..2.2.1.4 Method of test

Initial Condition

System Simulator : 2 cells – cell 1 and cell 6 are active. The CPICH_Ec/No and CPICH RSCP of cell 4 are improved to –15dB and –70dBm respectivelyThe $Q_{rxlevmin}$ and $Q_{rxqualmin}$.values in SYSTEM INFORMATION BLOCK TYPE 3 and 4 messages of cell 6 is changed to –90dBm and –20dB respectively

UE : CELL_DCH in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which commands that hard handover to cell 6 be performed.. The UE reconfigures the new physical channel parameters and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Hard handover to cell 6,
2				UE shall suspend all uplink transmissions to cell 1 and shall commence the reconfiguration of the affected physical channel parameters to that of cell 6.
3		→	RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message sub-type titled “Packet to CELL_DCH from CELL_DCH in PS“ in Annex A, with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 Same uplink UARFCN as used for cell 6 Same downlink UARFCN as used for cell 6
Downlink information for each radio links - Primary CPICH info - Primary Scrambling Code	Same downlink UARFCN as used for cell 6 350

8.2.2.1.5 Test requirement

After step1 the UE shall reconfigure the radio links with the SS.

After step3 the UE shall change its physical channel configuration and communicate with the SS on the DCCH and DTCH of cell 6.

8..2.2.2 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration**)**

8.2.2.2.1 Definition

8..2.2.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause

Reference

3GPP TS 25.331 clause 8.2.2

8..2.2.2.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message includes unsupported configuration parameters.

8..2.2.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including unsupported configuration by the UE
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984. Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" Configuration ~~unacceptable~~unsupported Not checked

8..2.2.2.5 Test requirement

After step2 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the value "configuration ~~unacceptable~~unsupported" set in IE" failure cause".

8..2.2.3 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.2.3.1 Definition

8..2.2.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received RADIO BEARER RECONFIGURATION massage and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “physical channel failure” in IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.2

8..2.2.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to the RADIO BEARER RECONFIGURATION message received previously.

8..2.2.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new radio bearer parameters but it does not reconfigure L1 according to the settings found in the message. The UE shall revert to the old configuration. Then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting value “.physical channel failure” in IE” failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				SS does not reconfigure L1 parameters to reflect the radio bearer reconfigurations specified in the message.
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE shall detect a failure to reconfigure the new radio bearer, and send this message using the old radio bearer conflguration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	“RADIO BEARER RECONFIGURATION FAILURE”
Failure cause	Physical channel failure
Other information element	Not checked

8..2.2.3.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC setting value “physical channel failure” in IE” failure cause”.

8..2.2.4 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH : Failure (Physical channel failure and reversion failure)

8.2.2.4.1 Definition

8..2.2.4.2 Conformance requirement

.The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.2

8..2.2.4.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot reconfigure the new radio bearer, and a subsequent failureto revert to the old configuration.

8..2.2.4.4 Method of test

Initial Condition

System Simulator : 2 cells - Cell 1 is active, Cell 2 is inactive

UE : CELL_DCH in cell 1

Test Procedure

The UE is in the CELL_DCH state in a cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters. The SS does not reconfigure L1 in accordance to the settings in the message and delete all radio bearer related contexts in cell 1. At the same time, SS begins to broadcast the BCCH in a cell 2. The UE discovers that it cannot reconfigure the new radio bearer and wants to revert to the old configuration. The UE shall find cell 2 and transmit to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE”U-RNTI” on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which specifies a new TFCS according to the new transport channel allocated. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the new radio bearer and delete the old configuration in cell 1.
3				The UE fails to reconfigure a new radio bearer.
4		←	BCCH	The SS transmits a BCCH in a cell 2 and delete the old radio bearer.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds cell.2and transmits this message which includes the IE"U-RNTI" it was previously assigned.
6		←	RRC CONNECTION RE-ESTABLISHMENT	This message includes a new TFCS according to the new transport channel indicated in RRC CONNECTION RE-ESTABLISHMENT message.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8..2.2.4.5 Test requirement

After step4 the UE shall detect the presence of cell.2, enters CELL_FACH state, and transmit RRC CONNECTION RE-ESTABLISHMENT to attempt to keep the current RRC connection.

After step7 the UE shall successfully re-establish an RRC connection.

8..2.2.5 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.5.1 Definition

8.2.2.5.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER RECONFIGURATION message before the UE can configure the radio bearer according to an earlier RADIO BEARER RECONFIGURATION message. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC setting "Incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.2

8..2.2.5.3 Test purpose

To confirm that the UE keeps its configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message when the UE receives another RADIO BEARER RECONFIGURATION message before the UE can complete the configuration of the radio bearer indicated in an earlier RADIO BEARER RECONFIGURATION message.

8..2.2.5.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the requested radio bearer(s), the UE keeps the old configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall set value “Incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Including IE”Uplink DPCH info”
2	←		RADIO BEARER RECONFIGURATION	Sent before the “activation time” in step 1 has elapsed
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	”RADIO BEARER RECONFIGURATION FAILURE”
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.5.5 Test requirement

After step2 the UE shall keep its configuration and transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which contains the value “Incompatible simultaneous reconfiguration” set in IE”failure cause”.

8.2.2.6 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception)

8.2.2.6.1 Definition

8.2.2.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message, which includes the spare value in the mandatory IE” DRX indicator” having criticality defined as “Reject”. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to “protocol error” in IE” failure cause” and is set to “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.6.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives a RADIO BEARER RECONFIGURATION message containing a spare value in the mandatory IE" DRX indicator" with criticality defined as "Reject".

8.2.2.6.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the spare value in the mandatory IE" DRX indicator" which criticality is defined as "Reject". The UE keeps the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE" failure cause" and is set to "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	The message contains a illegal error in a mandatory IE.
2		→	RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests, with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.2.6.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC stating the reason "protocol error" in IE" failure cause". The message shall contain the value "Information element value not comprehended" in IE" Protocol error cause".

8.2.2.7 Radio Bearer Reconfiguration from CELL_DCH to CELL_DCH :Failure (Suspension of signalling bearer)

8.2.2.7.1 Definition

8.2.2.7.2 Conformance requirement

The UE shall revert to the old configuration prior to the reception of RADIO BEARER RECONFIGURATION message, which includes IE"RBsuspend/resume" specified as "Suspend", and transmit a RADIO BEARER RECONFIGURATION FAILURE message to UTRAN

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.7.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to a RADIO BEARER RECONFIGURATION message.

8.2.2.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which specifies the suspension of a signalling radio bearer to be reconfigured. The UE shall revert to the old configuration. Then the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the IE" failure cause" set to "configuration ~~unacceptable~~unsupported".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Specifies a signalling radio bearer to be suspended.
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE shall revert to the old configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list RB information to reconfigure l -RB identity -RB suspend/resume	 3 "Suspend"

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" Configuration ~~unacceptable~~unsupported Not checked

8.2.2.7.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC specifying the reason "configuration ~~unacceptable~~unsupported " in IE" failure cause".

8.2.2.8 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Success

8.2.2.8.1 Definition

8.2.2.8.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer in case of a transition from CELL_DCH to CELL_FACH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.8.3 Test purpose

To confirm that the UE establishes the reconfigured radio bearer(s) using common physical channel, after a RADIO BEARER RECONFIGURATION message has been received from the SS.

8.2.2.8.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters and sets up L1 including the start of tx/rx. The UE reconfigures the new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				Reconfiguration of radio bearer
3		→	RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_DCH from CELL_FACH in PS” in Annex A.

8.2.2.8.5 Test requirement

After step1 the UE shall reconfigure the radio links with the SS.

After step3 the UE shall change its radio bearer configuration and communicate with the SS on the DCCH and DTCH, using the common physical channel allocated in RADIO BEARER RECONFIGURTION message.

8.2.2.9 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration**)**

8.2.2.9.1 Definition

8.2.2.9.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.9.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message indicates an unsupported configuration parameters.

8.2.2.9.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including unsupported configuration by the UE
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984. Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Configuration ~~unacceptable~~unsupported
Other information element	Not checked

8.2.2.9.5 Test requirement

After step2 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.2.10 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Failure (Physical channel failure)

8.2.2.10.1 Definition

8.2.2.10.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER CHANNEL RECONFIGURATION message, during the transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.10.3 Test purpose

To confirm that the UE initiate a cell reselection after encountering a physical channel failure, when attempting to transit from CELL_DCH to CELL_FACH state during the execution of radio bearer reconfiguration procedure. The UE is first instructed to select the cell implied in the RADIO BEARER RECONFIGURATION message, but discover a failure as the indicated cell is not present.

8.2.2.10.4 Method of test

Initial Condition

System Simulator : 2 cells – Cell 1 is active and cell 2 is inactive

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. SS starts to transmit the BCCH for cell 2, but with a power level lower that of cell 1. Following this, the SS send a RADIO BEARER RECONFIGURATION message to the UE, which includes relevant information about the target cell's P-CPICH. SS selects an unused primary scrambling code for P-CPICH, which neither matches the code used by cell 1 nor cell 2. This should lead to the detection of a physical channel failure in the UE. The UE shall trigger a cell reselection and initiate a cell update procedure if it is able to access cell 2. When SS receives a CELL UPDATE message in cell 2 on uplink CCCH, it replies with CELL UPDATE CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				SS begin to broadcast the BCCH data in cell 2, but with a power level lower than in cell 1.
2	←		RADIO BEARER RECONFIGURATION	The message includes IE "Primary CPICH Info" and set the IE"Primary Scrambling Code" to an unknown value (not used by cell 1 or cell 2).
3				UE shall detect a "physical channel failure" condition and then trigger a cell reselection procedure.
4	→		CELL UPDATE	After successfully camping onto cell 2, UE shall initiate a cell update procedure. The updating cause shall be set to "cell reselection"
5	←		CELL UPDATE CONFIRM	Contains cell

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Downlink information for each radio link - Primary CPICH Info - Primary Scrambling Code	 Set to an unused code different from the 3 cells defined.

CELL UPDATE

Information Element	Value/remark
U-RNTI Cell Update Cause	The assigned U-RNTI indicated In RRC CONNECTION SETUP message Cell Reselection

8.2.2.10.5 Test requirement

After step3, the UE shall discover the presence of cell 2, enter CELL_FACH and then perform a cell updating procedure by the transmission of CELL UPDATE using RLC-TM mode on CCCH. The UE shall transit to CELL_PCH state to monitor the PCCH channel after the reception of CELL UPDATE CONFIRM message.

8.2.2.11 Radio Bearer Reconfigure from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.11.1 Definition

8.2.2.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER RECONFIGURATION message before it completes the re-configuring the radio bearer according to an earlier RADIO BEARER RECONFIGURATION message. The UE shall transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.11.3 Test purpose

To confirm that the UE keeps its current radio bearer configurations and transmits an RADIO BEARER RECONFIGURATION FAILURE message when the UE receives another RADIO BEARER RECONFIGURATION message before it is able to complete an earlier reconfiguration request.

8.2.2.11.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the radio bearer the UE keeps the old configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Including IE”Uplink DPCH info”
2	←		RADIO BEARER RECONFIGURATION	
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

The contents of RADIO BEARER RECONFIGURATION messages in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests with the following exceptions:

RADIO BEARER RECONFIGURATION (Step 1)

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION (Step 2)

Information Element	Value/remark
Activation Time	Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	“RRC STATUS”
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.11.5 Test requirement

After step2 the UE shall keep its exiting radio bearer configuration and transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RL, with the value “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.2.12 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.2.12.1 Definition

8.2.2.12.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes the spare value in the mandatory IE" DRX indicator", possessing a criticality level defined as "Reject". It shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to "protocol error" in IE" failure cause" and is also set to "Information element value not comprehended" in IE" Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.12.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC to respond to an earlier RADIO BEARER RECONFIGURATION message, which applies a spare value in the mandatory IE" DRX indicator" having criticality defined as "Reject".

8.2.2.12.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes a spare value in the mandatory IE" DRX indicator". The UE keeps the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE" failure cause" and setting "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2		→	RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.2.12.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC with "protocol error" specified in IE" failure cause" and also "Information element value not comprehended" specified in IE" Protocol error cause".

8.2.2.13 Radio Bearer Reconfiguration from CELL_DCH to CELL_FACH: Failure (Suspension of signalling bearer)

8.2.2.13.1 Definition

8.2.2.13.2 Conformance requirement

The UE shall revert to the configuration prior to the reception of the RADIO BEARER RECONFIGURATION message which indicates suspension for an existing signalling radio bearer in IE"RB suspend/resume". It shall transmit a RADIO BEARER RECONFIGURATION FAILURE message to UTRAN

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.13.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE receives RADIO BEARER RECONFIGURATION message asking for the suspension of an existing signalling radio bearer.

8.2.2.13.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the IE"RB suspend/resume" set to "Suspend" for one signalling radio bearer. The UE shall revert to the old configuration. Then the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	The message requests for the suspension of a current available signalling radio bearer
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE shall revert to the old configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list RB information to reconfigure l -RB Identity -RB suspend/resume	 3 "Suspend"

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	configuration ~~unacceptable~~unsupported
Other information element	Not checked

8.2.2.13.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC specifying "configuration ~~unacceptable~~unsupported " in IE" failure cause".

8.2.2.14 Radio Bearer Reconfiguration: from CELL_FACH to CELL_DCH: Success

8.2.2.14.1 Definition

8.2.2.14.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer in case of a transition from CELL_FACH to CELL_DCH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.14.3 Test purpose

To confirm that the UE establishes a new radio bearer by following a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.14.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new radio bearer parameters and sets up L1 including the start of tx/rx. The UE reconfigures the new radio bearer and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	This message includes IE"Uplink DPCH Info"
2				Reconfiguration of radio bearer
3	→		RADIO BEARER RECONFIGURATION COMPLETE	

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled "Packet to CELL_FACH from CELL_DCH in PS" in Annex A.

8.2.2.14.5 Test requirement

After step2 the UE shall change its radio bearer configuration and communicate with the SS on the DCCH and DTCH which are being carried by the DPCH physical channel resources.

8.2.2.15 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.2.15.1 Definition

8.2.2.15.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message which includes unsupported configuration parameters and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.15.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the RADIO BEARER RECONFIGURATION message received includes unsupported configuration parameters.

8.2.2.15.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UEwhich includes unsupported configuration parameters of the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	The message includes an unsupported configuration for the UE
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration ~~unacceptable~~unsupported
Other information element	Not checked

8.2.2.15.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC stating "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.2.16 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.2.16.1 Definition

8.2.2.16.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received RADIO BEARER RECONFIGURATION massage and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.16.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to a RADIO BEARER RECONFIGURATION message.

8.2.2.16.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters and does not reconfigure L1. Therefore, the UE cannot reconfigure the new radio bearer and shall attempt to revert to the old configuration. Then the UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the value "physical channel failure" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigures L1 including the start of tx/rx
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE fails to reconfigure a new radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.2.16.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting “physical channel failure” in IE” failure cause”.

8.2.2.17 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.2.17.1 Definition

8.2.2.17.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.17.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure, when the UE cannot reconfigure the new radio bearer following a failure to configure L1 parameters for the new radio bearer settings and also a reversion failure to the old configuration.

8.2.2.17.4 Method of test

Initial Condition

System Simulator : 2 cells - Cell 1 is active, Cell 2 is inactive

UE : CELL_FACH in cell 1

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the new radio bearer parameters but does not reconfigure L1 to cater to the new radio bearer settings. The UE cannot reconfigure the new radio bearer and wants to revert to the old configuration. But the SS does not configure the old radio bearer and begins to broadcast the BCCH in a cell 2 and stops broadcasting the BCCH in cell 1. Then the UE finds a new cell 2 and transmits to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes the IE”U-RNTI” on the uplink CCCH. The SS replies with an RRC CONNECTION RE-ESTABLISHMENT message, specifying a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2				The SS does not reconfigure the new radio bearer and delete the old configuration.
3				The UE shall detect a failure to reconfigure a new radio bearer, and start to revert to old configuration.
4		←	BCCH	The SS starts to transmit the BCCH in cell 2 and delete the old radio bearer settings in cell 1.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find cell.2 and transmits this message which includes the IE"U-RNTI" it possesses.
6		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.2.2.17.5 Test requirement

After step4 the UE shall detect the presence of cell 2, enter CELL_FACH state, and attempt to perform RRC connection re-establishment procedure.

After step7 the UE shall successfully re-establish an RRC connection, and be able to access the dedicated physical resources in cell 2.

8.2.2.18 Radio Bearer Reconfigure from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.18.1 Definition

8.2.2.18.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER RECONFIGURATION message before it completes the reconfiguration of the new radio bearers specified in RADIO BEARER RECONFIGURATION message. Following this, the UE shall transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with value "incompatible simultaneous reconfiguration" set in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.18.3 Test purpose

To confirm that the UE keeps its configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message when the UE receives another RADIO BEARER RECONFIGURATION message before the UE configures the radio bearer according to a RADIO BEARER RECONFIGURATION message.

8.2.2.18.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the completion of a radio bearer reconfiguration commanded earlier, the UE keeps the old configuration. The UE shall also transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Including IE”Uplink DPCH info”
2		←	RADIO BEARER RECONFIGURATION	Sent before the elapse of the “Activation Time” indicated in the previous RADIO BEARER RECONFIGURATION message.
3		→	RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	“RADIO BEARER RECONFIGURATION FAILURE”
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.18.5 Test requirement

After step2 the UE shall keep its configuration and transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.2.19 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.2.19.1 Definition

8.2.2.19.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message, which includes the spare value in the mandatory IE” DRX indicator” with criticality defined as “Reject”. Then it shall transmit a RADIO BEARER RECONFIGURATION FAILURE message setting “protocol error” in IE” failure cause” and also setting “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.19.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RECONFIGURATION message which includes the spare value in the mandatory IE" DRX indicator", with criticality defined as "Reject".

8.2.2.19.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the spare value in the mandatory IE" DRX indicator". The UE shall keep the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "protocol error" in IE" failure cause" and also set "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2		→	RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.2.19.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC, which contain the cause "protocol error" in IE" failure cause" and "Information element value not comprehended" in IE" Protocol error cause".

8.2.2.20 Radio Bearer Reconfiguration from CELL_FACH to CELL_DCH: Failure (Suspension of signalling bearer)

8.2.2.20.1 Definition

8.2.2.20.2 Conformance requirement

The UE shall revert to the configuration prior to the reception of the RADIO BEARER RECONFIRGURATION message which specifies the suspension of an existing signalling radio bearer. It shall then transmit a RADIO BEARER RECONFIGURATION FAILURE message to UTRAN

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.20.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer due to an inappropriate suspension request in RADIO BEARER RECONFIGURATION message.

8.2.2.20.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes the IE"RB suspend/resume" set to "Suspend" for one existing signalling radio bearer. The UE shall revert to the old configuration. Then the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	The message includes IE"RB suspend/resume" for one of the signalling radio bearer.
2	→		RADIO BEARER RECONFIGURATION FAILURE	The UE shall revert to the old configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list RB information to reconfigure l -RB identity -RB suspend/resume	 2 Set to the"Suspend"

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" configuration ~~unacceptable~~unsupported Not checked

8.2.2.20.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall contain the value "configuration ~~unacceptable~~unsupported " in IE" failure cause".

8.2.2.21 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH:Success

8.2.2.21.1 Definition

8.2.2.21.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to a RADIO BEARER RECONFIGURATION message which is communicate with the UTRAN on the new radio bearer and a transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.22.3 Test purpose

To confirm that the UE establishes a new radio bearer by following a RADIO BEARER RECONFIGURATION message received from the SS.

8.2.2.21.4 Method of test

Initial Condition

System Simulator : 2 cells Cell 1 is active, Cell 2 is inactive

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. SS begins to broadcast the BCCH of cell 2. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the new transport channel parameter reconfigure for transit . The UE reconfigures the new transport cannel and transmits a RADIO BEARER RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	RADIO BEARER RECONFIGURATION	including Primary CPICH Info for cell 2.
3				Reconfiguration of Transport channel
4		→	RADIO BEARER RECONFIGURATION COMPLETE	Received on the uplink DCCH of cell 2.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 2)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS“ in Annex A.

8.2.2.21.5 Test requirement

After step3 the UE shall transit from CELL_FACH to CELL_FACH in the another cell and communicate with the SS on the DCCH and DTCH using the modified transport channel configurations

8.2.2.22 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration**)**

8.2.2.22.1 Definition

8.2.2.22.2 Conformance requirement

This procedure is used to handle the case of a failure to reconfigure radio bearer(s) or signalling link(s), following a detection of an unsupported configuration by the UE.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.22.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RECONFIGURATION message includes unsupported configuration parameters.

8.2.2.22.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Including unsupported configuration by the UE
2	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984. Not Present

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	Configuration ~~unacceptable~~unsupported
Other information element	Not checked

8.2.2.22.5 Test requirement

After step2 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the value "configuration ~~unacceptable~~unsupported" set in IE" failure cause".

8.2.2.23 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Failure (Physical channel failure)

8.2.2.23.1 Definition

8.2.2.23.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.23.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to the RADIO BEARER RECONFIGURATION message received previously.

8.2.2.23.4 Method of test

Initial Condition

System Simulator : 3 cells Cell 1 is active, Cell 2 is inactive, Cell 3 is inactive

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a RADIO BEARER RECONFIGURATION message, resulting in the UE to attempt to transit from CELL_FACH in cell 1 to CELL_FACH in cell 3. The UE is expected to fail to access the assigned physical channel as the SS ceases downlink transmission in cell 3. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The procedure completes when the SS confirms UE's cell update request.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	RADIO BEARER RECONFIGURATION	The message assigns common resources so that the UE is expected to execute a transition from CELL_FACH in cell 1 to CELL_FACH in cell 3
3				The UE shall detect a failure to use the assigned common physical channel and try to perform a cell reselection.
4		→	CELL UPDATE	The UE discover the presence of cell 2 and triggers a cell update procedure.
5		←	CELL UPDATE CONFIRM	SS sends this message so that the UE moves to CELL_PCH state.

Specific Message Contents

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A, with the following exceptions:

Information Element	Value/remark
Downlink information for each radio links - Primary CPICH Info - Primary scrambing code	 200

8.2.23.5 Test requirement

After step3 the UE shall discover the presence of cell 2, enter CELL_FACH state, and initiate a cell update procedure in that cell.

8.2.2.24 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.2.24.1 Definition

8.2.2.24.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER RECONFIGURATION message before the UE can configure the radio bearer according to an earlier RADIO BEARER RECONFIGURATION message. The UE shall transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC setting “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.24.3 Test purpose

To confirm that the UE keeps its configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message when the UE receives another RADIO BEARER RECONFIGURATION message before the UE can complete the configuration of the radio bearer indicated in an earlier RADIO BEARER RECONFIGURATION message.

8.2.2.24.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER RECONFIGURATION message to the UE before the UE configures the requested radio bearer(s), the UE keeps the old configuration and transmits an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall set value “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	Including IE”Uplink DPCH info”
2	←		RADIO BEARER RECONFIGURATION	Sent before the “activation time” in step 1 has elapsed
3	→		RADIO BEARER RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RC STATUS

Information Element	Value/remark
Message Type	“RADIO BEARER RECONFIGURATION FAILURE”
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.2.24.5 Test requirement

After step2 the UE shall keep its configuration and transmit an RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which contains the value “incompatible simultaneous reconfiguration” set in IE”failure cause”.

8.2.2.25 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.2.25.1 Definition

8.2.2.25.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RECONFIGURATION message, which includes the spare value in the mandatory IE” DRX indicator” having criticality defined as “Reject”. The UE shall transmit a RADIO BEARER RECONFIGURATION FAILURE message which is set to “protocol error” in IE” failure cause” and is set to “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.25.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives a RADIO BEARER RECONFIGURATION message containing a spare value in the mandatory IE" DRX indicator" with criticality defined as "Reject".

8..2.2.25.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which includes the spare value in the mandatory IE" DRX indicator" which criticality is defined as "Reject". The UE keeps the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "protocol error" in IE" failure cause" and is set to "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RECONFIGURATION	The message contains a illegal error in a mandatory IE.
2	→		RADIO BEARER RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGRATION message in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests, with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"RADIO BEARER RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.2.25.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RECONFIGRATION FAILURE message on the DCCH using AM RLC stating the reason "protocol error" in IE" failure cause". The message shall contain the value "Information element value not comprehended" in IE" Protocol error cause".

8.2.2.26 Radio Bearer Reconfiguration from CELL_FACH to CELL_FACH :Failure (Suspension of signalling bearer)

8.2.2.26.1 Definition

8.2.2.26.2 Conformance requirement

The UE shall revert to the old configuration prior to the reception of RADIO BEARER RECONFIGURATION message, which includes IE"RBsuspend/resume" specified as "Suspend", and transmit a RADIO BEARER RECONFIGURATION FAILURE message to UTRAN

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.26.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new radio bearer according to a RADIO BEARER RECONFIGURATION message.

8.2.2.26.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message to the UE which specifies the suspension of a signalling radio bearer to be reconfigured. The UE shall revert to the old configuration. Then the UE transmits a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC with the IE" failure cause" set to "configuration ~~unacceptable~~unsupported".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	Specifies a signalling radio bearer to be suspended.
2		→	RADIO BEARER RECONFIGURATION FAILURE	The UE shall revert to the old configuration

Specific Message Contents

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
RB information to reconfigure list RB information to reconfigure l -RB identity -RB suspend/resume	 3 "Suspend"

RADIO BEARER RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"RADIO BEARER RECONFIGURATION FAILURE" Configuration ~~unacceptable~~unsupported Not checked

8.2.2.26.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER RECONFIGURATION FAILURE message on the DCCH using AM RLC specifying the reason "configuration ~~unacceptable~~unsupported " in IE" failure cause".

8.2.2.31 Radio Bearer Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.2.31.1 Definition

8.2.2.31.2 Conformance requirement

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_DCH to CELL_PCH when receives a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.31.3 Test purpose

To confirm that the UE transmit RADIO BEARER RECONFIGURATION COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.2.31.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2		→	RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message before state transition.
3				Reconfiguration of Radio Bearer after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with CELL updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	 UTRAN originator Previously assigned SRNC identity Previously assigned S-RNTI

8.2.2.31.5 Test requirement

After step 1 the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.2.32 Radio Bearer Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.2.32.1 Definition

8.2.2.32.2 Conformance requirement

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_DCH to URA_PCH when receives a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure a radio bearer according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.32.3 Test purpose

To confirm that the UE transmit RADIO BEARER RECONFIGURATION COMPLETE before entering URA_PCH state after it received a RADIO BEARER RECONFIGURATION message and reconfigured its radio bearers. The UE is in URA_PCH state of the same cell.

8.2.2.32.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the URA_DCH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2		→	RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message before state transition.
3				Reconfiguration of Radio Bearer after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with URA updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Paging originator	UTRAN originator
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.2.32.5 Test requirement

After step 1 the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transits from CELL_DCH to URA_PCH.

8.2.2.33 Radio Bearer Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.2.33.1 Definition

8.2.2.33.2 Conformance requirement

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_FACH to CELL_PCH when receive a RADIO BEARER RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.33.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.2.33.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state again.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2		→	RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message before state transition.
3				Reconfiguration of Radio Bearer after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with CELL updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Paging originator	UTRAN originator
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.2.33.5 Test requirement

After step 1 the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.2.34 Radio Bearer Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.2.34.1 Definition

8.2.2.34.2 Conformance requirement

The UE shall transmit RADIO BEARER RECONFIGURATION COMPLETE message and transit from CELL_FACH to URA_PCH when receive a RADIO BEARER RECONFIGURATION message. And the UE shall reconfigure radio bearers according to the RADIO BEARER RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.2.34.3 Test purpose

To confirm that the UE transmits RADIO BEARER RECONFIGURATION COMPLETE before entering URA_PCH state after it received a RADIO BEARER RECONFIGURATION message and reconfigured its radio bearers. The UE is in URA_PCH state in the same cell.

Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RECONFIGURATION message. The UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state again.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RECONFIGURATION	
2		→	RADIO BEARER RECONFIGURATION COMPLETE	The UE sends this message before state transition.
3				Reconfiguration of Radio Bearer after state transition.
4		←	PAGING TYPE1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with URA updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	 UTRAN originator Previously assigned SRNC identity Previously assigned S-RNTI

8.2.2.34.5 Test requirement

After step 1 the UE transmits RADIO BEARER RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_FACH to URA_PCH.

8.2.3 Radio Bearer Release

8.2.3.1 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success

8.2.3.1.1 Definition

8.2.3.1.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.1.3 Test purpose

To confirm that the UE release the existing radio bearer according to a RADIO BEARER RELEASE message received from the SS.

8.2.3.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2				Release the radio bearer
3	→		RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

None

8.2.3.1.5 Test requirement

After step1 the UE shall release its radio bearers.

After step3 the UE shall stop communicating on the released radio bearers, no uplink transmission shall be observed originating from the released link. The remaining radio bearers shall continue to be operational.

8.2.3.2 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.3.2.1 Definition

8.2.3.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message which includes unsupported configuration parameters and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting value “configuration ~~unacceptable~~unsupported” in IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.2.3 Test purpose

To confirm that the UE keeps its current configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, if the received RADIO BEARER RELEASE message indicates an unsupported configuration parameters for the UE.

8.2.3.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE specifying a frequency which is not supported by the UE. The UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC indicating “configuration ~~unacceptable~~unsupported” in IE” failure cause”..

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	Including unsupported configuration by the UE
2	→		RADIO BEARER RELAESE FAILURE	The UE does not change the radio bearer.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8.2.3.2.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLCwith the IE" failure cause" set to "configuration ~~unacceptable~~unsupported". The UE shall able to continue receiving and sending user data.

8.2.3.3 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.3.3.1 Definition

8.2.3.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer by timer T312 expiry and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the UE fails to release the radio bearer according to a RADIO BEARER RELEASE message by timer T312 expiry.

8.2.3.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message but it does not configure L1 correspondingly. This causes the UE to fail to release the radio bearer, and after T312 expiry the UE reverts to the old configuration.The UE then transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which specifies ".physical channel failure" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2				The SS does not configure L1 to reflect the release of the indicated bearer.
3	→		RADIO BEARER RELEASE FAILURE	After T312 expiry, the UE finds that it fails to release a radio bearer and reverts to the old configuration.

Specific Message Contents

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.3.3.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which includes the value "physical channel failure" in IE" failure cause".

8.2.3.4 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure(Physical channel failure and reversion failure)

8.2.3.4.1 Definition

8.2.3.4.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer release procedure.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.4.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot revert to the old configuration after encountering a physical channel failure during the execution of a radio bearer release procedure.

8.2.3.4.4 Method of test

Initial Condition

System Simulator : 2 cells - Cell 1 is active, Cell.2 is inactive

UE : CELL_DCH in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS begins to broadcast the BCCH in cell 2 with a lower power level than for cell 1. At the same time, it transmits a RADIO BEARER RELAESE message to the UE but does not configure L1. As a result, the UE fails to release the radio bearer properly and tries to revert to the old configuration after T312 expiry. But the SS deletes the old radio bearer so the UE shall find the availability of cell 2 and transmits to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes the IE"U-RNTI" and sent on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to transmit the BCCH for cell 2 but at a lower power level than cell 1.
2		←	RADIO BEARER RELEASE	
3				The SS does not configure L1 and deletes the old configuration. This is expected to cause the UE to fail in the release the radio bearer and can not revert to the old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find cell 2 and then transmit this message which includes the IE"U-RNTI" set to its assigned connected mode identity.
5		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None.

8.2.3.4.5 Test requirement

After step 3 the UE shall find the presence of cell 2, enter CELL_FACH state, and transmits RRC CONNECTION RE-ESTABLISHMENT REQUEST message on the uplink CCCH of cell 2.

After step6 the UE shall successfully re-establish an RRC connection, after sending RRC CONNECTION RE-RESTABLISHMENT COMPLETE message.

8.2.3.5 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.5.1 Definition

8.2.3.5.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER RELEASE message before the UE is able to release the indicated radio bearer according to a RADIO BEARER RELEASE message. The UE shall transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.5.3 Test purpose

To confirm that the UE keeps its configuration when the UE receives another RADIO BEARER RELEASE message before the UE releases the radio bearer according to the earlier RADIO BEARER RELEASE message.

8.2.3.5.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. SS transmits a RADIO BEARER RELEASE message on the downlink DCCH, requesting the UE to release all radio bearers mapped to dedicated transport channels. Next, the SS transmits another RADIO BEARER RELEASE message to the UE before the UE is able to release the radio bearers requested in the earlier message. The UE shall keep the old configuration. It shall transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2		←	RADIO BEARER RELEASE	Message sent before the “activation time” indicated in the message of step 1 has elapsed.
3		→	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title “Packet to CELL_FACH from CELL_DCH in PS” found in Annex A, with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.5.5 Test requirement

After step2 the UE shall keep its old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.3.6 Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Failure (Invalid message reception)

8.2.3.6.1 Definition

8.2.3.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message which includes the spare value in the mandatory IE" DRX indicator". It shall transmit a RADIO BEARER RELEASE FAILURE message which contains value "protocol error" in IE" failure cause" and value "Information element value not comprehended" in IE" Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.6.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message, which uses a spare value in the mandatory IE" DRX indicator".

8.2.3.6.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE which includes the spare value in the mandatory IE" DRX indicator". The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. This message shall indicate "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to that found in default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	Spare value

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.3.6.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which is set to “protocol error” in IE” failure cause” and is set to “Information element value not comprehended” in IE” Protocol error cause”.

8.2.3.7 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Success

8.2.3.7.1 Definition

8.2.3.7.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message, when the common physical channel are requested to be used for the remaining radio bearers.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.7.3 Test purpose

To confirm that the UE release the existing the radio bearer according to a RADIO BEARER RELEASE message received from the SS.

8.2.3.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	SS releases the radio bearer in the fashion specified in the message and allocate common channel resources to carry the remaining radio bearers.
2				UE shall release radio bearers on dedicated transport channels, and reconfigure the remaining radio bearers using the given common control channel.
3	→		RADIO BEARER RELEASE COMPLETE	UE shall be able to continue communication over the remaining radio bearers using the allocated common control channels.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS” in Annex A.

8.2.3.7.5 Test requirement

After step3 the UE shall release the specified radio bearer(s) and cease any further uplink transmission from these radio bearer(s). At the same time, it shall resume the transmission or reception of data for the previously suspended radio bearers.

8.2.3.8 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.3.8.1 Definition

8.2.3.8.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message, which includes an unsupported configuration parameters and then transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting “configuration ~~unacceptable~~unsupported” in IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.8.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RELEASE message includes unsupported configuration parameters for the UE.

8.2.3.8.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE as the frequency cannot be supported by the UE. The UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set value "configuration ~~unacceptable~~unsupported" in IE" failure cause"..

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	The message Includes a configuration unsupported by the UE.
2	→		RADIO BEARER RELAESE FAILURE	The UE does not alter the current radio bearer configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not present

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8.2.3.8.5 Test requirement

After step2 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.3.9 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Failure (Physical channel failure)

8.2.3.9.1 Definition

8.2.3.9.2 Conformance requirement

The UE shall initiate the cell update procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER RELEASE message as the transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.9.3 Test purpose

To confirm that the UE perform a cell update procedure when the UE cannot use the assigned physical channel according to a RADIO BEARER RELEASE message as the transition from CELL_DCH to CELL_FACH.

8.2.3.9.4 Method of test

Initial Condition

System Simulator : 2 cells? No.1 is active, No.2 is inactive?

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state in cell No.1. The SS begins to broadcast the BCCH in cell No.2 and transmits a RADIO BEARER RELEASE message as the transition from CELL_DCH to CELL_FACH. The UE cannot use the assigned physical channel as the SS does not transmit any data on the DL common channel in cell No.1. Then the UE initiate the cell update procedure in cell No.2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS broadcasts BCCH in cell No.2.
2		←	RADIO BEARER RELEASE	Assigned the transition from CELL_DCH to CELL_FACH
3				The UE cannot use the assigned the physical channel.
4		→	CELL UPDATE	The UE finds a new cell?No.2? and begins a cell update procedure.
5		←	CELL UPDATE CONFIRM	In the CELL_FACH state

Specific Message Contents

None

8.2.3.9.5 Test requirement

After step3 the UE shall find a new cell No.2 and enter to CELL_FACH state. Then the UE shall initiate a cell update procedure in cell No.2.

8.2.3.10 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.10.1 Definition

8.2.3.10.1 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER RELEASE message, before the UE manages to release the radio bearer specified in the RADIO BEARER RELEASE message. The UE shall transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set value “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.10.2 Test purpose

To confirm that the UE keeps its configuration when the UE receives another RADIO BEARER RELEASE message before the UE has completed the release of the radio bearer according to a RADIO BEARER RELEASE message.

8.2.3.10.3 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the it completes the releases of the requested radio bearer, the UE keeps the old configuration. Thereafter, it transmits an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2		←	RADIO BEARER RELEASE	Sent before the passing of the “activation time” indicated in RADIO BEARER RELEASE message in step 1.
3		→	RADIO BEARER RELEASE FAILURE	The UE shall not change the radio bearer configuration.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to those found in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.10.4 Test requirement

After step2 the UE shall keep its old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.3.11 Radio Bearer Release for transition from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.3.11.1 Definition

8.2.3.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message. The message uses a spare value for the mandatory IE” DRX indicator”. Upon receiving this message, the UE shall transmit a RADIO BEARER RELEASE FAILURE message containing the value “protocol error” in IE” failure cause” and also the value “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.11.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message which uses a spare value in the mandatory IE" DRX indicator".

8.2.3.11.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELAESE message to the UE which indicates a spare value in the mandatory IE" DRX indicator". The UE shall keeps the old configuration and then transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. The content of this message shall indicates "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	This message uses a spare value for a mandatory IE.
2		→	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to those found in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	Spare value

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.3.11.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which set "protocol error" in IE" failure cause" and also set "Information element value not comprehended" in IE" Protocol error cause".

8.2.3.12 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Success

8.2.3.12.1 Definition

8.2.3.12.2 Conformance requirement

The UE shall correctly release a radio bearer according to a RADIO BEARER RELEASE message.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.12.3 Test purpose

To confirm that an UE, in state CELL_FACH, releases the radio access bearers on RACH and FACH transport channels. After the release, it shall access the affected radio bearers on the newly allocated DCH transport channel.

8.2.3.12.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message to the UE. In this message, SS commands the UE to release radio bearers on RACH and FACH. At the same time, SS allocates DCH to support the affected radio bearers. The UE shall release the indicated radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2				UE shall release the radio access bearers carried by RACH and FACH transport channels.
3	→		RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled “Packet to CELL_DCH from CELL_FACH in PS” in Annex A.

8.2.3.12.5 Test requirement

After step3 the UE shall stop communicating on the released radio bearers, and resume all suspended radio bearer using the dedicated physical channel allocated.

8.2.3.13 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.3.13.1 Definition

8.2.3.13.2 Conformance requirement

The UE shall keep its old configuration when it receives a RADIO BEARER RELEASE message which specifiesunsupported configuration parameters for the UE. Then the UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which, setting value “configuration ~~unacceptable~~unsupported” in IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.3

8..2.3.13.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the received RADIO BEARER RELEASE message requests for unsupported configuration parameters for the UE.

8.2.3.13.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE, referring to a frequency which cannot be supported by the UE. The UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and set "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	The message contains a configuration not supported by the UE
2	→		RADIO BEARER RELAESE FAILURE	The UE shall not change the radio bearer configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8.2.3.13.5 Test requirement

After step2 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, stating the reason "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.3.14 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.3.14.1 Definition

8.2.3.14.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to configure the new radio bearer before T312 timer expiry. Then it shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value “physical channel failure” in IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.14.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if the UE fails to release the radio bearer in accordance the specified settings in RADIO BEARER RELEASE message by T312 timer expiry.

8.2.3.14.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message and does not configure L1. The UE is expected to encounter a failure while releasing the radio bearer. After T312 timer expiry, the UE shall revert to the old radio bearer configuration, so the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC which is set to “.physical channel failure” in IE” failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2				The SS does not configure L1.
3	→		RADIO BEARER RELEASE FAILURE	After T312 expiry the UE fails to release a radio bearer and reverts to the old configuration.

Specific Message Contents

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.3.14.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting the value “physical channel failure” in IE” failure cause”.

8.2.3.15 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure(Physical channel failure and reversion failure)

8.2.3.15.1 Definition

8.2.3.15.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the radio bearer release procedure.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.15.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot revert to the old configuration, following a physical channel failure during the radio bearer release.

8.2.3.15.4 Method of test

Initial Condition

System Simulator : 2 cells - Cell.1 is active, Cell 2 is inactive

UE : CELL_FACH in cell No.1

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a RADIO BEARER RELAESE message to the UE, but it does not configure L1. This is expected to cause the UE to experience a failure to release the radio bearer and it subsequently tries to revert to the old configuration after T312 expiry. The SS deletes the old radio bearer, so the UE shall find cell 2 and transmits to it an RRC CONNECTION RE-ESTABLISHMENT REQUEST message, which includes the IE"U-RNTI" on the uplink CCCH. After receiving this message, the SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to transmit the BCCH in a cell 2.
2		←	RADIO BEARER RELEASE	
3				The SS does not configure L1 and deletes the old configuration so the UE cannot release the radio bearer and also fails revert to the old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds a new cell 2 and then transmits this message which includes the IE"U-RNTI" it has been assigned to.
5		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None.

8.2.3.15.5 Test requirement

After step3 the UE shall find the presence of cell 2, enter CELL_FACH state, and transmit a RRC CONNECTION RE-ESTABLISHMENT REQUEST on the uplink CCCH.

After step6 the UE shall successfully re-establish an RRC connection and access the dedicated physical channels assigned.

8.2.3.16 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.16.1 Definition

8.2.3.16.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER RELEASE message before the UE is able to release the radio bearer according to an earlier RADIO BEARER RELEASE message. The UE shall then transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting value "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.16.3 Test purpose

To confirm that the UE keeps its old configuration when it receives another RADIO BEARER RELEASE message before it releases the radio bearer according to an earlier RADIO BEARER RELEASE message.

8.2.3.16.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a RADIO BEARER RELEASE message to the UE before the UE completes the release of the radio bearer, it shall keep the old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. This message shall specify the reason “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2		←	RADIO BEARER RELEASE	Sent before the expiry stated in IE “Activation Time” of RADIO BEARER RELEASE message in step 1.
3		→	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to those found in default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.3.16.5 Test requirement

After step2 the UE shall keep its old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, and set the value “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.3.17 Radio Bearer Release for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.3.17.1 Definition

.

8.2.3.17.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message which uses a spare value in the mandatory IE” DRX indicator”. It shall transmit a RADIO BEARER RELEASE FAILURE message which indicate the value “protocol error” in IE” failure cause” and setting “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.17.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC if it receives a RADIO BEARER RELEASE message which uses a spare value in the mandatory IE” DRX indicator”.

8..2.3.17.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE containing a spare value in the mandatory IE" DRX indicator". The UE keeps the old configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, which shall indicate the reason "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2	→		RADIO BEARER RELEASE FAILURE	The UE shall not change its current configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to those for the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.3.17.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE" failure cause" and also indicating "Information element value not comprehended" in IE" Protocol error cause".

8.2.3.18 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Success

8.2.3.18.1 Definition

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8.2.3.18.2 Conformance requirement

The UE shall correctly release a radio bearer according to the RADIO BEARER RELEASE message received.

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.18.3 Test purpose

To confirm that the UE release the existing the radio bearer(s) according to the RADIO BEARER RELEASE message received from the SS.

8.2.3.18.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELEASE message to the UE. The UE release the radio bearer and transmits a RADIO BEARER RELEASE COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2				The UE shall release the requested radio bearer(s), and stop transmitting using these radio bearer(s).
3	→		RADIO BEARER RELEASE COMPLETE	

Specific Message Contents

None

8.2.3.18.5 Test requirement

After step1 the UE shall cease the transmission and reception of the affected radio bearers.

After step3 the UE shall stop communicating on radio bearers to be released.

8.2.3.19 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.3.19.1 Definition

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8.2.3.19.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a RADIO BEARER RELEASE message that specifies an unsupported configuration. It shall then transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC and setting the cause "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.19.3 Test purpose

To confirm that the UE keeps its configuration and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, if the received RADIO BEARER RELEASE message includes unsupported configuration parameters.

8.2.3.19.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE specifying a frequency, which cannot be supported by the UE. The UE shall transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, indicating "configuration ~~unacceptable~~unsupported" in IE" failure cause"..

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	Including an unsupported configuration for the UE
2	→		RADIO BEARER RELAESE FAILURE	The UE shall not change the radio bearer.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8.2.3.19.5 Test requirement

After step2 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, and set "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.3.20 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.3.20.1 Definition

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8.2.3.20.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another RADIO BEARER RELEASE message, before the UE releases the radio bearer according to an earlier RADIO BEARER RELEASE message. The UE shall transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, indicating "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.20.3 Test purpose

To confirm that the UE keeps its configuration when it receives another RADIO BEARER RELEASE message before it manage to release the radio bearer according to a RADIO BEARER RELEASE message.

8.2.3.20.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. SS transmits a RADIO BEARER RELEASE message on the downlink DCCH, requesting the UE to release all radio access bearers established. Next, SS transmits another RADIO BEARER RELEASE message to the UE before it completes the release of the radio bearers specified in the earlier message. The UE shall keep the old configuration. It then transmits an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, setting “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2		←	RADIO BEARER RELEASE	Sent before the passing of the time indicated in “Activation Time Info” in the RADIO BEARER RELEASE message of step 1.
3		→	RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

RADIO BEARER RELEASE (Step 2)

The contents of RADIO BEARER RELEASE message in this test case is identical to the message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS” in Annex A.

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Incompatible simultaneous reconfiguration Not checked

8.2.3.20.5 Test requirement

After step2 the UE shall keep its old configuration and transmit an RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, and setting “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.3.21 Radio Bearer Release for transition from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.3.21.1 Definition

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8.2.3.21.2 Conformance requirement

The UE shall keep its old configuration when it receives a RADIO BEARER RELEASE message, including a spare value in the mandatory IE" DRX indicator". It shall transmit a RADIO BEARER RELEASE FAILURE message with the cause "protocol error" in IE" failure cause" and also the cause "Information element value not comprehended" set in IE" Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.3

8.2.3.21.3 Test purpose

To confirm that the UE transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC, if it receives a RADIO BEARER RELEASE message using a spare value in the mandatory IE" DRX indicator".

8.2.3.21.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a RADIO BEARER RELAESE message to the UE which includes the use of a spare value in the mandatory IE" DRX indicator". The UE shall keep the old configuration intact and transmits a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. The message shall state "protocol error" in IE" failure cause", and also indicate "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	This message contains a mandatory IE errror.
2	→		RADIO BEARER RELEASE FAILURE	The UE does not change the configuration.

Specific Message Contents

RADIO BEARER RELEASE

The contents of RADIO BEARER RELEASE message in this test case is identical to those found in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

RADIO BEARER RELEASE FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.3.21.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a RADIO BEARER RELEASE FAILURE message on the DCCH using AM RLC. This uplink message shall state the reason "protocol error" in IE" failure cause" and also indicate "Information element value not comprehended" in IE" Protocol error cause".

8.2.3.26 Radio Bearer Release from CELL_DCH to CELL_PCH: Success

8.2.3.26.1 Definition

8.2.3.26.2 Conformance requirement

The UE shall transmit RADIO BEARER RELEASE COMPLETE message before completes transition from CELL_DCH to CELL_PCH when receives a RADIO BEARER RELEASE message. And then, the UE shall release radio bearers according to the RADIO BEARER Release message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.3.26.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RELEASE message and released its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.3.26.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message. The UE transmits RADIO BEARER RELEASE COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		RADIO BEARER RELEASE	
2	→		RADIO BEARER RELEASE COMPLETE	The UE sends this message before completes state transition.
3	←		PAGING TYPE 1	The SS transmits this message included a matched identity.
4	→		CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with CELL updating

PAGING TYPE 1 (Step 3)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	 UTRAN originator Previously assigned SRNC identity Previously assigned S-RNTI

8.2.3.26.5 Test requirement

After step 1 the UE transmits RADIO BEARER RELEASE COMPLETE message to the UE on uplink DCCH using AM RLC before completes state transition.

8.2.3.27 Radio Bearer Release from CELL_DCH to URA_PCH: Success

8.2.3.27.1 Definition

8.2.3.27.2 Conformance requirement

The UE shall transmit RADIO BEARER RELEASE COMPLETE message before completes transition from CELL_DCH to CELL_PCH when receives a RADIO BEARER RELEASE message. And then, the UE shall release radio bearers according to the RADIO BEARER Release message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.3.27.3 Test purpose

To confirm that the UE transmits RADIO BEARER RELEASE COMPLETE before entering CELL_PCH state after it received a RADIO BEARER RELEASE message and released its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.3.27.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a RADIO BEARER RELEASE message. The UE transmit RADIO BEARER RELEASE COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	RADIO BEARER RELEASE	
2		→	RADIO BEARER RELEASE COMPLETE	The UE sends this message before completes state transition.
3		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
4		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

RADIO BEARER RELEASE (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with URA updating

PAGING TYPE 1 (Step 3)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Paging originator	UTRAN originator
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.3.27.5 Test requirement

After step 1 the UE transmits RADIO BEARER RELEASE COMPLETE message to the UE on uplink DCCH using AM RLC before completes state transition.

8..2.4 Transport channel reconfiguration

8.1.2.4.1 Transport channel reconfiguration from CELL_DCH to CELL_DCH (Hard handover to same radio frequency): Success with no transport channel type switching

8.2.4.1.1 Definition

8.2.4.1.2 Conformance requirement

The UE shall correctly reconfigure a radio bearer according to the TRANSPORT CHANNEL RECONFIGURATION message, which specifies a hard handover to another cell. After the completion of this procedure, the UE shall be able to communicate with the UTRAN on the new transport channel.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.1.3 Test purpose

To confirm that the UE reconfigures a new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message, which also specifies that a hard handover to another cell be performed simultaneously.

8.2.4.1.4 Method of test

Initial Condition

System Simulator : 2 cells – cell 1 and cell 2 are both active

UE : CELL_DCH in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters to be applied in cell 2. The UE shall reconfigure the new transport channel and then transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 2 using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	Hard handover to cell 2. Including UE information elements(“TFS”l)
2				UE shall suspend all uplink transmissions and reconfigureitself to use the new transport channel parameters
3		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled “Packet to CELL_DCH from CELL_DCH in PS“ in Annex A, with the following exceptions:

Information Element	Value/remark
TrCH Information Elements -Uplink transport Channels -Added or Reconfigured TrCH information list -Downlink transport Channels -Added or Reconfigured TrCH information list Downlink information for each radio links - Primary CPICH info - Primary Scrambling Code	 Number of Transport blocks = 2 Number of Transport blocks = 2 Same downlink UARFCN as used for cell 2 150

8.2.4.1.5 Test requirement

After step1 the UE shall reconfigure the radio links affected by the changes for uplink and downlink DCH. The UE shall stop transmitting on the uplink of cell 1.

After step3 the UE shall continue to communicate with the SS on the DCCH of cell 2, using the new Transport Format Set (TFS) applicable on the existing transport channel.

8.2.4.2 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.4.2.1 Definition

8.2.4.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “configuration ~~unacceptable~~unsupported” in IE” failure cause

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.2.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received TRANSPORT CHANNEL RECONFIGURATION message specifies unsupported configuration parameters.

8.2.4.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters of the UE. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the event “configuration ~~unacceptable~~unsupported” in IE” failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONGURATION	Including unsupported configuration by the UE
2	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the settings used by the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
TrCH Information Elements -Uplink transport Channels -Added or Reconfigured TrCH information list -Downlink transport Channels -Added or Reconfigured TrCH information list	 Number of Transport blocks = 4096 Selected value as the UE can not support. Number of Transport blocks = 4096

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Configuration ~~unacceptable~~unsupported
Other information element	Not checked

8.2.4.2.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.4.3 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.4.3.1 Definition

8.2.4.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by received TRANSPORT CHANNEL RECONFIGURATION massage and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "physical channel failure" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters but it does not reconfigure the new transport channel. Therefore, the UE cannot reconfigure them and have to revert to the old configuration. Then the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting “physical channel failure” in IE” failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	Specifies a change in the TFS of the dedicated transport channel used.
2				The SS does not reconfigure the transport channel, leading to the UE unable to reconfigure the new transport channel.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE reverts to the old configuration and transmits this message.

Specific Message Contents

TRNSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	“TRNSPORT CHANNEL RECONFIGURATION FAILURE”
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.3.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, and it shall set the value “physical channel failure” in IE” failure cause”.

8.2.4.4 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.4.1 Definition

8.2.4.4.2 Conformance requirement

This procedure is used to failure of reconfiguration for a transport channel because of physical channel failure and reversion failure for the transition from CELL_FACH to CELL_FACH in the same cell..

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.4.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot reconfigure the new transport channel due to a failure of L1 configuration, and subsequently fail to revert to the old configuration after T312 expiry.

8.2.4.4.4 Method of test

Initial Condition

System Simulator : 2 cells – Cell 1 is active, Cell 2 is inactive

UE : CELL_DCH in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. SS begins to broadcast the BCCH of cell 2 using a power level lower than that applied for cell 1. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE. The message specifies a new set of transport channel parameters but the SS does not reconfigure L1 correspondingly. At the same time, SS deletes its current contexts for cell 1. As a result, the UE cannot reconfigure the new transport channel and shall attempt to revert to the old configuration. The UE shall findthe presence of cell 2 and then transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel assigned. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	SS begins to transmit the BCCH for cell 2,
2		←	TRANSPORT CHANNEL RECONGURATION	Specifies the use of a new setting for transport channel.
3				The SS does not reconfigure L1 and deletes the old configuration present in cell 1..
4				The UE fails to reconfigure a new transport channel.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE detects the presence of cell.2, and then transmits this message which includes the IE"U-RNTI".
6		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.2.4.4.5 Test requirement

After step4 the UE shall discover cell 2, enter CELL_FACH state, and then transmit a RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

After step7 the UE shall successfully re-establish an RRC connection in cell 2.

8.2.4.5 Transport Channel Reconfiguration from CELL_DCH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.5.1 Definition

8.2.4.5.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another TRANSPORT CHANNEL RECONFIGURATION message, before the UE completes the configuration of the transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received earlier. The UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.5.3 Test purpose

To confirm that the UE keeps its current configuration, transmits an TRANSPORT CHANNEL RECONFIGURATION FAILURE message when it receives another TRANSPORT CHANNEL RECONFIGURATION message before the completion of an earlier reconfiguration request.

8.2.4.5.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE has successfully configured the transport channel specified in an earlier message, the UE keeps the old configuration. After that, the UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Including IE”Uplink DPCH info”
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the time specified in IE“Activation Time Info” of message in step 1 has elapsed.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests with the following exceptions:

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8..2.4.5.5 Test requirement

After step2 the UE shall keep its configuration and transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason "incompatible simultaneous reconfiguration" in IE"failure cause".

8.2.4.6 Transport channel reconfiguration from CELL_DCH to CELL_DCH: Failure (Invalid message reception)

8.2.4.6.1 Definition

8.2.4.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which makes use of a spare value in the mandatory IE" DRX indicator". Then it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message with the value "protocol error" set in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.6.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if the received TRANSPORT CHANNEL RECONFIGURATION message comprises a spare value in the mandatory IE" DRX indicator".

8.2.4.6.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a spare value in the mandatory IE" DRX indicator". The UE shall keep the old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "protocol error" in IE" failure cause" and also indicating "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	Contains an illegal value for a mandatory IE
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.4.6.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify "protocol error" in IE" failure cause" and set value "Information element value not comprehended" in IE" Protocol error cause".

8.2.4.7 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Success

8.2.4.7.1 Definition

8.2.4.7.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to TRANSPORT CHANNEL RECONFIGURATION massage, after it is requested to perform a transition from CELL_DCH to CELL_FACH in the same cell in conjunction with the transport channel reconfiguration.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.7.3 Test purpose

To confirm that the UE reconfigures a new Transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits TRANSPORT CHANNEL RECONFIGURATION message to the UE which omits IE" Uplink DPCH info" and IE" Downlink DPCH info" . This should cause the UE to perform a state transition from CELL_DCH to CELL_FACH in the same cell. The UE then reconfigures the new transport channel according to this message and reconfigure the new physical channel according to the system information messages. Finally, the UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	IE"Uplink DPCH Info" and IE"Downlink DPCH Info" are not specified.
2				UE shall perform the reconfiguration of transport channel
3		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

None.

8.2.4.7.5 Test requirement

After step3 the UE shall transit from CELL_DCH to CELL_FACH in the same cell, and then continue to communicate with SS on the new transport channel and common physical channels.

8.2.4.8 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.4.8.1 Definition

8.2.4.8.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.8.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received TRANSPORT CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.4.8.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	Including an unsupported transport channel configuration for the UE
2		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
TrCH Information Elements -Uplink transport Channels >Added or Reconfigured TrCH information list -Downlink transport Channels >Added or Reconfigured TrCH information list	 Number of transport blocks = 4096 Number of transport blocks = 4096

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8.2.4.8.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, which shall contains cause "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.4.9 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Failure (Physical channel failure and reversion to old configuration)

8.2.4.9.1 Definition

8.2.4.9.2 Conformance requirement

The UE shall revert the old configuration when it fails to reconfigure the new transport channel requested. When reversion is successful, it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE massage to UTRAN.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.9.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to the TRANSPORT CHANNEL RECONFIGURATION message received.

8.2.4.9.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE which includes the new transport channel parameters. However, it does not reconfigure the new transport channel to reflect change. As a result, the UE should encounter difficulties in the reconfigure process and after T312 expiry, it shall revert to its stored old configuration. When the UE manages to return to the old configuration, it transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and set the reason “physical channel failure” in IE” failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONGURATION	
2				The SS does not reconfigure the transport channel hence the UE could not access the new transport channel.
3	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	After T312 expiry, the UE reverts to the old configuration and transmits this message using the original transport channel settings.

Specific Message Contents

TRNSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	TRNSPORT CHANNEL RECONFIGURATION FAILURE
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.9.5 Test requirement

After step2 the UE shall attempt revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The failure message shall contain the reason “physical channel failure” in IE” failure cause”.

8.2.4.10 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Failure (Physical channel failure and reversion failure)

8.2.4.10.1 Definition

8.2.4.10.2 Conformance requirement

The UE shall initiate a RRC connection re-establishment procedure, after it encounters a physical channel failure followed by an inability to revert to the old transport channel configuration.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.10.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE fails successively in the following actions: (a) configure the new transport channel according to TRANSPORT CHANNEL RECONFIGGURATION message received and (b) revert to the old channel configuration after timer T312 expiry.

8.2.4.10.4 Method of test

Initial Condition

System Simulator : 2 cells - Cell 1 is active, Cell 2 is inactive

UE : CELL_DCH in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. SS begins to transmit the BCCH for cell 2. The SS then transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which specifies the new transport channel parameters on common physical channel. But the SS does not reconfigure the L1 parameters and the new transport channel to reflect this change. Consequently, the UE discovers that it cannot reconfigure the new transport channel and try to revert to the old configuration. At this time, SS deletes all context related to the old configuration in cell 1. Then the UE should find cell 2 and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH. After the reception of such a message, the SS transmits an RRC CONNECTION RE-ESTABLISHMENT message and includes a new TFCS for the new transport channel in cell 2. After receiving this message, the UE reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to transmit the BCCH cell 2.
2		←	TRANSPORT CHANNEL RECONGURATION	
3				The SS does not reconfigure L1. At the same time, it deletes the old channel configuration.
4				The UE fails to reconfigure a new transport channel.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall discover the presence of cell 2 and transmits this message, which includes the IE"U-RNTI".
6		←	RRC CONNECTION RE-ESTABLISHMENT	A new TFCS is commanded according to the new transport channel.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.2.4.10.5 Test requirement

After step4 the UE shall find cell 2, enter CELL_FACH state and then initiate RRC connection re-establishment procedure in cell 2.

After step7 the UE shall successfully re-establish an RRC connection in cell 2.

8.2.4.11 Transport Channel Reconfiguration from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.11.1 Definition

8.2.4.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another TRANSPORT CHANNEL RECONFIGURATION message before the UE configures the transport channel, according to an earlier TRANSPORT CHANNEL RECONFIGURATION message. The UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which specifies “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.11.3 Test purpose

To confirm that the UE keeps its configuration and transmits an TRANSPORT CHANNEL RECONFIGURATION FAILURE message when the UE receives another TRANSPORT CHANNEL RECONFIGURATION message, before the UE had completed the configuration of the transport channel originating from an earlier TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.11.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to request for a reconfiguration of the transport channel, leading to a state transition to CELL_FACH. However, before the completion of this process, SS sends a second TRANSPORT CHANNEL RECONFIGURATION message. The UE shall keep the old configuration as if no reconfiguration has occurred and then transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The status message shall indicate “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	IE “Activation Time Info” is included
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the activation time requested in step 1 has passed.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURTION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.11.5 Test requirement

After step2 the UE shall keep its configuration and then transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, containing the reason "incompatible simultaneous reconfiguration" in IE"failure cause".

8.2.4.12 Transport channel reconfiguration from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.4.12.1 Definition

8.2.4.12.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which makes use of a spare value in the mandatory IE" DRX indicator". Then it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message, setting the value "protocol error" in IE" failure cause" and also setting "Information element value not comprehended" in IE" Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.12.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC if it receives a TRANSPORT CHANNEL RECONFIGURATION message which uses a spare value in the mandatory IE" DRX indicator".

8.2.4.12.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, and includes a spare value in the mandatory IE" DRX indicator". The UE shall keep the old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	Contains a mandatory IE error.
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.4.12.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The UE shall set "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

8.2.4.13 Transport channel reconfiguration from CELL_FACH to CELL_DCH : Success

8.2.4.13.1 Definition

8.2.4.13.2 Conformance requirement

The UE shall correctly reconfigure the transport channels according to TRANSPORT CHANNEL RECONFIGURATION massage, which trigger a state transition from CELL_FACH to CELL_DCH in the same cell.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.13.3 Test purpose

To confirm that the UE reconfigures a new transport channel using dedicated physical channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.13.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes IE" Uplink DPCH info" and IE" Downlink DPCH info" leading to a state transition from CELL_FACH to CELL_DCH in the same cell. The UE shall reconfigure the new transport channel according to this message and then reconfigure the new physical channel according to the system information message. Finally, the UE transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Includes both IE"Uplink DPCH Info" and IE"Downlink DPCH Info" in the message.
2				Reconfiguration of transport channel
3		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

None.

8.2.4.13.5 Test requirement

After step3 the UE shall transit from CELL_FACH to CELL_DCH in the same cell, and continue to communicate with SS using the new transport channel configuration based on DPCH physical channels.

8.2.4.14 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.4.14.1 Definition

8.2.4.14.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.14.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC when it receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters.

8.2.4.14.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters for the UE. The UE shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	The message includes unsupported configuration by the UE
2		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
TrCH Information Elements -Uplink transport Channels -Added or Reconfigured TrCH information list -Downlink transport Channels -Added or Reconfigured TrCH information list	 Number of transport channels = 4096 Number of transport channels = 4096

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Configuration ~~unacceptable~~unsupported
Other information element	Not checked

8.2.4.14.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The UE shall set "configuration ~~unacceptable~~unsupported" in IE" failure cause" of the message.

8.2.4.15 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old channel)

8.2.4.15.1 Definition

8.2.4.15.2 Conformance requirement

The UE shall revert to the old configuration when the UE has failed to reconfigure the new transport channel requested, and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE massage to UTRAN.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.15.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the UE fails to reconfigure the new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message.

8.2.4.15.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_DCH state. SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes the new transport channel parameters. However, SS does not reconfigure the new transport channel accordingly. Hence, the UE shall experience a failure in the reconfiguration process. After T312 expiry, the UE shall revert to the old channel configuration. Then the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason "physical channel failure" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONGURATION	Message includes IE"Downlink DPCH Info" and IE"Uplink DPCH Info"
2				SS does not reconfigure the transport channel causing the UE to detect a physical channel failure.
3	→		TRANSPORT CHANNEL RECONFIGURATION FAILURE	After T312 expiry the UE shall revert to the old configuration and transmit this message.

Specific Message Contents

TRNSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	TRNSPORT CHANNEL RECONFIGURATION FAILURE
Failure cause	Physical channel failure
Other information element	Not checked

8.2.4.15.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a TRANPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value "physical channel failure" in IE" failure cause".

8.2.4.16 Transport channel reconfiguration from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.4.16.1 Definition

8.2.4.16.2 Conformance requirement

The UE shall initiate a RRC re-establishment procedure when it fails to revert to the old channel configuration, following a physical channel failure in the transport channel reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.16.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure, when the UE cannot reconfigure the new transport channel for the failure of L1 configuration and subsequently fails to revert to the old configuration after T312 expiry.

8.2.4.16.4 Method of test

Initial Condition

System Simulator : 2 cells - Cell 1 is active, Cell 2 is inactive

UE : CELL_FACH in cell 1

Test Procedure

The UE is in the CELL_FACH state in a cell 1. SS begins to broadcast the BCCH of cell 2 at a power level lower than in cell 1, and then it transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE in cell 1. The message includes a new set of transport channel parameters. However, the SS does not reconfigure L1 and the new transport channel accordingly. At the same time, it deletes the current channel configurations in cell 1. As a result, the UE cannot reconfigure the new transport channel and an attempt to revert to the old configuration fails. The UE shall then find that cell 2 is available, camp onto it, and transmits an RRC CONNECTION RE-ESTABLISHMENT REQUEST message. This message shall include the IE"U-RNTI" on the uplink CCCH. When the SS receives this message, it transmits an RRC CONNECTION RE-ESTABLISHMENT message, which specifies a new TFCS according to the new transport channel used. After the UE receives this message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to transmit BCCH in cell 2
2		←	TRANSPORT CHANNEL RECONGURATION	
3				The SS does not reconfigure L1 and transport channel, it also deletes its current contexts for cell 1.
4				The UE shall experience a failure to reconfigure a new transport channel and also fails to revert to old configuration.
5		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find cell 2, camp onto it, and then transmits this message which includes the IE"U-RNTI".
6		←	RRC CONNECTION RE-ESTABLISHMENT	Including the new TFCS according to the new transport channel.
7		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None

8.2.4.16.5 Test requirement

After step4 the UE shall find the presence of cell 2, enter CELL_FACH state, and transmit RRC RE-ESTABLISHMENT REQUEST message to attempt to setup the RRC connection in cell 2.

After step7 the UE shall successfully re-establish the RRC connection in cell 2.

8.2.4.17 Transport Channel Reconfiguration from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.17.1 Definition

8.2.4.17.2 Conformance requirement

The UE shall keep its old configuration when it receives another TRANSPORT CHANNEL RECONFIGURATION message before it can configure the transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received earlier. The UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting “incompatible simultaneous reconfiguration” in IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.17.3 Test purpose

To confirm that the UE keeps its configuration and transmits an TRANSPORT CHANNEL RECONFIGURATION FAILURE message when it receives another TRANSPORT CHANNEL RECONFIGURATION message before the completion of an earlier request for transport channel reconfiguration.

8.2.4.17.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before it has successfully configured the transport channel based on an earlier request. It shall respond by keeping the old configuration and then transmitting an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The content of the failure message shall indicate “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Includes the IE”Uplink DPCH info”
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the elapse of the activation time specified in step 1.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.17.5 Test requirement

After step2 the UE shall keep its configuration and transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value to "incompatible simultaneous reconfiguration" in IE"failure cause".

8.2.4.18 Transport channel reconfiguration from CELL_FACH to CELL_DCH:Failure (Invalid message reception)

8.2.4.18.1 Definition

8.2.4.18.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes a spare value in the mandatory IE" DRX indicator". The UE shall then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message, specifying "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.18.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if it receives a TRANSPORT CHANNEL RECONFIGURATION message which uses a spare value in the mandatory IE" DRX indicator".

8.2.4.18.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a spare value in the mandatory IE" DRX indicator". The UE shall keep the old configuration and then transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall contain the value "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	Contains a error in one of the mandatory IE in the message.
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.4.18.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The content of the message shall specify "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

8.2.4.19 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Success with no transport channel type switching

8.2.4.19.1 Definition

8.2.4.19.2 Conformance requirement

The UE shall remain in CELL_FACH state and transition from CELL_FACH to CELL_FACH in the another cell requested in the received TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.19.3 Test purpose

To confirm that the UE reconfigures a new transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received from the SS.

8.2.4.19.4 Method of test

Initial Condition

System Simulator : 2 cells Cell 1 is active, Cell 2 is inactive

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes new transport channel parameters for Hand Over. The UE reconfigures the new transport channel and transmits a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	TRANSPORT CHANNEL RECONGURATION	Including Primary CPICH Info
3				Reconfiguration of a new transport channel
4		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

None

8.2.4.19.5 Test requirement

After step3 the UE shall transit from CELL_FACH to CELL_FACH in the another cell and continue to communicate with the SS on the DCCH using the existing transport channel.

8.2.4.20 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.4.20.1 Definition

8.2.4.20.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which includes unsupported configuration parameters and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.20.3 Test purpose

To confirm that the UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received TRANSPORT CHANNEL RECONFIGURATION message specifies unsupported configuration parameters.

8.2.4.20.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters of the UE. The UE transmits a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the event "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONGURATION	Including unsupported configuration by the UE
2		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the settings used by the transport channel.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
TrCH Information Elements -Uplink transport Channels -Added or Reconfigured TrCH information list -Downlink transport Channels -Added or Reconfigured TrCH information list	 Number of Transport blocks = 4096 Selected value as the UE can not support. Number of Transport blocks = 4096

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	"TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	Configuration ~~unacceptable~~unsupported
Other information element	Not checked

8.2.4.20.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.4.21 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Failure (Physical channel failure)

8.2.4.21.1 Definition

8.2.4.21.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a TRANSPORT CHANNEL RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.21.3 Test purpose

To confirm that the UE perform a cell reselection and cell update procedure when the it fail to access the assigned physical channel, according to a TRANSPORT CHANNEL RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

8.2.4.21.4 Method of test

Initial Condition

System Simulator : 3 cells Cell 1 is active, Cell 2 is inactive, Cell 3 is inactive

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a TRANSPORT CHANNEL RECONFIGURATION message, resulting in the UE to attempt to transit from CELL_FACH in cell 1 to CELL_FACH in cell 3. The UE is expected to fail to access the assigned physical channel as the SS ceases downlink transmission in cell 3. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The procedure completes when the SS confirms UE's cell update request.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	TRANSPORT CHANNEL RECONFIGURATION	The message assigns common resources so that the UE is expected to execute a transition from CELL_FACH in cell 1 to CELL_FACH in cell 3
3				The UE shall detect a failure to use the assigned common physical channel and try to perform a cell reselection.
4		→	CELL UPDATE	The UE discover the presence of cell 2 and triggers a cell update procedure.
5		←	CELL UPDATE CONFIRM	SS sends this message so that the UE moves to CELL_PCH state.

Specific Message Contents

None

8.2.4.21.5 Test requirement

After step3 the UE shall discover the presence of cell 2, enter CELL_FACH state, and initiate a cell update procedure in that cell.

8.2.4.22 Transport Channel Reconfiguration from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.4.22.1 Definition

8.2.4.22.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another TRANSPORT CHANNEL RECONFIGURATION message, before the UE completes the configuration of the transport channel according to a TRANSPORT CHANNEL RECONFIGURATION message received earlier. The UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.22.3 Test purpose

To confirm that the UE keeps its current configuration, transmits an TRANSPORT CHANNEL RECONFIGURATION FAILURE message when it receives another TRANSPORT CHANNEL RECONFIGURATION message before the completion of an earlier reconfiguration request.

8.2.4.22.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE before the UE has successfully configured the transport channel specified in an earlier message, the UE keeps the old configuration. After that, the UE shall transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	Including IE”Uplink DPCH info”
2		←	TRANSPORT CHANNEL RECONFIGURATION	Sent before the time specified in IE“Activation Time Info” of message in step 1 has elapsed.
3		→	TRANSPORT CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

The contents of TRANSPORT CHANNEL RECONFIGURATION messages in this test case is identical to the corresponding message found in the default contents of layer 3 messages for RRC tests with the following exceptions:

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Information Element	Value/remark
Activation Time	Current CFN-[current CFN mod 8 + 8]

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	“TRANSPORT CHANNEL RECONFIGURATION FAILURE”
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.4.22.5 Test requirement

After step2 the UE shall keep its configuration and transmit an TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, stating the reason “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.4.23 Transport channel reconfiguration from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.4.23.1 Definition

8.2.4.23.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a TRANSPORT CHANNEL RECONFIGURATION message which makes use of a spare value in the mandatory IE" DRX indicator". Then it shall transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message with the value "protocol error" set in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

Reference

3GPP TS 25.331 clause 8.2.4

8.2.4.23.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGRATION FAILURE message on the DCCH using AM RLC, if the received TRANSPORT CHANNEL RECONFIGURATION message comprises a spare value in the mandatory IE" DRX indicator".

8.2.4.23.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message to the UE, which includes a spare value in the mandatory IE" DRX indicator". The UE shall keep the old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying "protocol error" in IE" failure cause" and also indicating "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		TRANSPORT CHANNEL RECONFIGURATION	Contains an illegal value for a mandatory IE
2	→		TRANSPORT CHANNEL RECONFIGRATION FAILURE	The UE does not change the configuration.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

TRANSPORT CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	" TRANSPORT CHANNEL RECONFIGURATION FAILURE"
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.4.23.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a TRANSPORT CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The message shall specify

“protocol error” in IE” failure cause” and set value “Information element value not comprehended” in IE” Protocol error cause”.

8.2.4.28 Transport Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.4.28.1 Definition

8.2.4.28.2 Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to CELL_PCH when receives a TRANSPORT CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure a radio bearer according to the TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.4.28.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message before entering CELL_PCH state after it received a TRANSPORT CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message. The UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	
2		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Transport channel after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with CELL updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Paging originator	UTRAN originator
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.4.28.5 Test requirement

After step 1 the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.4.29 Transport Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.4.29.1 Definition

8.2.4.29.2 Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to URA_PCH when receives a TRANSPORT CHANNEL RECONFIGURATION

message. And then, the UE shall reconfigure radio bearers according to the TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.4.29.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message before entering URA_PCH state after it received a TRANSPORT CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in URA_PCH state of the same cell.

8.2.4.29.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message. The UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	
2		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Transport channel after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	Cell UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with URA updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	 UTRAN originator Previously assigned SRNC identity Previously assigned S-RNTI

8.2.4.29.5 Test requirement

After step 1 the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to URA_PCH.

8.2.4.30 Transport Channel Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.4.30.1 Definition

8.2.4.30.2 Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_FACH to CELL_PCH when receives a TRANSPORT CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.4.30.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message before entering CELL_PCH state after it received a TRANSPORT CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state of the same cell.

8.2.4.30.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message. The UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state again.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	
2		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Transport Channel after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with CELL updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	 UTRAN originator Previously assigned SRNC identity Previously assigned S-RNTI

8.2.4.30.5 Test requirement

After step 1 the UE transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_FACH to CELL_PCH.

8.2.4.31 Transport Channel Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.4.31.1 Definition

8.2.4.31.2 Conformance requirement

The UE shall transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_FACH to URA_PCH when receives a TRANSPORT CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the TRANSPORT CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.4.31.3 Test purpose

To confirm that the UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message before entering URA_PCH state after it received a TRANSPORT CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in URA_PCH state.

8.2.4.31.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message. The UE transmits TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state again.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	TRANSPORT CHANNEL RECONFIGURATION	
2		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Transport Channel after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

TRANSPORT CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with URA updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	 UTRAN originator Previously assigned SRNC identity Previously assigned S-RNTI

8.2.4.31.5 Test requirement

After step 1 the UE transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_FACH to URA_PCH.

8.2.5 Transport format combination control

8.2.5.1 Transport format combination control in CELL_DCH : restriction

8.2.5.1.1 Definition

8.2.5.1.2 Conformance requirement

The UE shall change the subset of allowed transport format combination of uplink when the UE receives TRANSPORT FORMAT COMBINATION CONTROL message.

Reference

3GPP TS 25.331 clause 8.2.5

8.2.5.1.3 Test purpose

To confirm that the UE do not transmit data on the DTCH in the uplink direction, following the reception of TRANSPORT FORMAT COMBINATION CONTROL message sent from the SS, which is set to “zero” in IE” Minimum allowed Transport format combination index”.

8.2.5.1.4 Method of test

Initial Condition

System Simulator : 1cell

UE :CELL_DCH

Test Procedure

The UE establishes a radio access bearer on the DCH for a communication. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which indicates that only TFC_0 is allowed on the uplink for DCH transport channel. The UE shall reconfigure the TFCS, stop any transmission on DTCH logical channel and then continues the communication on DCCH only.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE s in CELL_DCH state with a DTCH logical channel allocated for communication between UE and SS
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Set to “zero” in IE” Minimum allowed Transport format combination index”.
3				The UE shall not transmit any data on the DTCH.

Specific Message Contents

TRNSPORT FORMAT COMBINATION CNTROL

Information Element	Value/remark
TrCH information elements -Minimum allowed Transport format combination index	Set to “zero”

8.2.5.1.5 Test requirement

After step2 the UE shall stop transmitting data on the DTCH in the uplink.

8.2.5.2 Transport format combination control in CELL_DCH: release a restriction

8.2.5.2.1 Definition

8.2.5.2.2 Conformance requirement

The UE shall change the subset of allowed transport format combination of uplink when it receives TRANSPORT FORMAT COMBINATION CONTROL message, specifying that an existing restriction for the usage of TFCS be removed.

Reference

GPP TS 25.331 clause 8.2.5

8.2.5.2.3 Test purpose

To confirm that the UE resume transmission of data on the DTCH on the uplink, following the reception of TRANSPORT FORMAT COMBINATION CONTROL message which is set to “one” as the prior used transport format combination number in IE” Minimum allowed Transport format combination index”.

8.2.5.2.4 Method of test

Initial Condition

System Simulator : 1cell

UE : CELL_DCH with DTCH allocated but fully restricted.

Test Procedure

The UE is in CELL_DCH state with DTCH allocated but fully restricted. The UE cannot transmit the data on the DTCH, as a result of the restriction on the transport format combination. Next, the SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message which is set to “one” in IE” Minimum allowed Transport format combination index”

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				No data transmission on the DTCH with a restriction in the uplink direction, following the execution of test 8.1.2.5.1.
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Set to “one” IE” Minimum allowed Transport format combination index”.
3				The UE begins to transmit the data on the DTCH.

Specific Message Contents

TRNSPORT FORMAT COMBINATION CNTROL

Information Element	Value/remark
TrCH information elements -Minimum allowed Transport format combination index	Set to “one”

8.2.5.2.5 Test requirement

After step2 the UE shall begin to transmit the data on the DTCH in the uplink.

8.2.5.3 Transport format combination control in CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.5.3.1 Definition

8.2.5.3.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another TRANSPORT FORMAT COMBINATION CONTROL message before the UE reconfigures the transport channel completely according to a similar message received earlier. The UE shall transmit an TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC indicating “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.5

8.2.5.3.3 Test purpose

To confirm that after the UE receives TRANSPORT FORMAT COMBINATION CONTROL massage, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keep the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL massage is received.

8.2.5.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH

Test Procedure

The UE establishes a radio access bearer on the DCH for to be used for user-data exchange. SS sends a TRANSPORT CHANNEL RECONFIGURATION message on the downlink DCCH, to request that the channel coding scheme for a DCH be changed. After this message has been acknowledged by the UE RLC-AM entity, the SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which includes a full restriction of the TFCS used in the uplink. The UE shall detect a failure to reconfigure the TFCS, then it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the uplink DCCH. After the activation time specified in the TRANSPORT CHANNEL RECONFIGURATION message has elapsed, the UE shall send TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH. SS verifies that reconfiguration is completed by checking that the user-data exchange is resumed on DTCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is in CELL_DCH connected state, with a DTCH logical channel for user-data communication
2	←		TRANSPORT CHANNEL RECONFIGURATION	Requesting for a change in semi-static transport format for DCH carrying the DTCH. The dynamic part remains unchanged.
3	←		TRANSPORT FORMAT COMBINATION CONTROL	Requesting for a full restriction on TFCS for the DCH carrying DTCH.
4	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall keep the TFC subset as before the TRANSPORT FORMAT COMBINATION CONTROL message was received
5				The UE does not change the configuration of TFC and the UE continues reconfigure the affected transport channel.
6			TRANSPORT CHANNEL RECONFIGURATION COMPLETE	UE shall resume exchange of data over the DTCH logical channel.

Specific Message Contents

TRNSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to those in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
TrCH Information Elements - Uplink transport channels - Added or reconfigured TrCH information list - Transport channel identity - Semi-Static Transport Format Information - Type of channel coding	 2 Select a different coding scheme from default message content

TRANSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
DPCH TFCS in Uplink - Subset Representation - Allowed TFIs	Restricted TrCH information Not Present (All TFCs are restricted)

TRANSPORT FORMAT COMBINATION CONTROL FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	"TRNSPORT FORMAT COMBINATION CNTROL FAILURE" Incompatible simultaneous reconfiguration Not checked

8.2.5.3.5 Test requirement

After step3 the UE continue the transport channel reconfiguration as if no TRANSPORT FORMAT COMBINATION CONTROL message was received. Then it shall transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC, stating the reason "Incompatible simultaneous reconfiguration" in IE" Failure cause".

After step6 the UE shall resume communication with SS on DTCH using the requested channel coding scheme on the transport blocks.

8.2.5.4 Transport format combination control in CELL_DCH: Failure (Invalid message reception)

8.2.5.4.1 Definition

8.2.5.4.2 Conformance requirement

The UE shall keep old configuration when it receives a TRANSPORT FORMAT COMBINATION CONTROL message which using a spare value in the mandatory IE"Minimum allowed Transport format combination index". It shall then transmits a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message, indicating "protocol error" in IE" failure cause" and "Information element value not comprehended" in IE" Protocol error cause".

Reference

GPP TS 25.331 clause 8.2.5

8.2.5.4.3 Test purpose

To confirm after the UE receives an invalid TRANSPORT FORMAT COMBINATION CONTROL massage, it transmits TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and keep the TFC subset as if no TRANSPORT FORMAT COMBINATION CONTROL massage has been received.

8.2.5.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_DCH

Test Procedure

The UE establishes a radio access bearer on the DCH for a communication. The SS transmits a TRANSPORT FORMAT COMBINATION CONTROL message, which uses a spare value in the mandatory .IE"Minimum allowed Transport format combination index". The UE shall then transmit TRANSPORT FORMAT COMBINATION CONTROL FAILURE message and continues the communication using the radio access bearer.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				RRC connected state on the DTCH for a communication
2	←		TRANSPORT FORMAT COMBINATION CONTROL	Contains an error in a mandatory IE.
3	→		TRANSPORT FORMAT COMBINATION CONTROL FAILURE	The UE shall not change the configuration

Specific Message Contents

TRNSPORT FORMAT COMBINATION CONTROL

Information Element	Value/remark
DPCH TFCS in uplink - Minimum allowed Transport format combination index	Set to the value "MaxTFCValue"

TRNSPORT FORMAT COMBINATION CNTROL FAILURE

Information Element	Value/remark
Message Type	"TRNSPORT FORMAT COMBINATION CNTROL FAILURE"
Failure cause	"protocol error"
Protocol error information	
-Protocol error case	Information element value not comprehended
Other information element	Not checked

8.2.5.4.5 Test requirement

After step3 the UE shall keep its configuration before the TRANSPORT FORMAT COMBINATION CONTROL message was received and transmit a TRANSPORT FORMAT COMBINATION CONTROL FAILURE message on the DCCH using AM RLC. The UE shall set the value "protocol error" in IE" Failure cause" and the value "information element not comprehended" in IE"protocol error information". The UE shall continue communicate with SS using the radio access bearer.

8.2.6 Physical channel reconfiguration

8.2.6.1 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Success

8.2.6.1.1 Definition

8.2.6.1.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received, which is used for hard handover purposes. It shall be able to communicate with the UTRAN on the new frequency subsequently.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.1.3 Test purpose

To confirm that the UE reconfigures the physical channel parameters according to a PHYSICAL CHANNEL RECONFIGURATION message received from the SS. After the reconfiguration, the UE shall resume normal transmission and reception operations.

8.2.6.1.4 Method of test

Initial Condition

System Simulator : 2 cells - cell 1 and cell 6 are active. The $Q_{rxlevmin}$ and $Q_{rxqualmin}$.values in SYSTEM INFORMATION BLOCK TYPE 3 and 4 messages of cell 6 is changed to –90dBm and –20dB respectively

UE : CELL_DCH in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes a new physical channel parameter specified in the "Frequency Info" IE. The UE shall reconfigure itself and tune to the new physical channel and transmits a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 6 using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	Including new frequency information.
2				UE shall suspend uplink activities to cell 1 and begin to reconfigure the physical channel parameters.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type titled “Packet to CELL_DCH from CELL_DCH in PS“ in Annex A, with the following exceptions:

Information Element	Value/remark
Frequency info	
- UARFCN uplink(Nu)	Same uplink UARFCN as used for cell 6
- UARFCN downlink(Nd)	Same downlink UARFCN as used for cell 6
Downlink information for each radio links	Same downlink UARFCN as used for cell 6
- Primary CPICH info	
- Primary Scrambling Code	350

8.2.6.1.5 Test requirement

After step2 the UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH of cell 6, and then continue to communicate with SS on the new physical channel.

8.2.6.2 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.6.2.1 Definition

8.2.6.2.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message which includes an unsupported configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason “configuration ~~unacceptable~~unsupported” in IE” failure cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.2.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters for the UE.

8.2.6.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes unsupported configuration parameters as the frequency cannot be supported by the UE. The UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which is set to "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	Includes an unsupported configuration as the frequency cannot be supported by the UE
2		→	PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the physical channel and continue to communicate using the old configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8.2.6.2.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and set "configuration ~~unacceptable~~unsupported" in IE" failure cause".

8.2.6.3 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Physical channel failure and reversion to old channel)

8.2.6.3.1 Definition

8.2.6.3.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by the expiry of timer T312, and then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating "physical channel failure" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.3.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new

physical channel according to the received PHYSICAL CHANNEL RECONFIGURATION message by timer T312 expiry.

8.2.6.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which includes new frequency parameters. However, the SS does not reconfigure the new physical channel. The UE is expected to encounter a failure to reconfigure the new physical channel and after T312 timer expiry the UE shall revert to the old configuration. Finally, the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC specifies "physical channel failure" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	Including a new frequency information
2				The SS does not reconfigure the physical channel so that the UE fails to reconfigure to the new physical channel.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiry, the UE shall revert to the old configuration and transmits this message.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.6.3.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the value "physical channel failure" in IE" failure cause".

8.2.6.4 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Physical channel failure and reversion failure)

8.2.6.4.1 Definition

8.2.6.4.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration, after the detection of physical channel failure during the course of executing a physical channel reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.4.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure when the UE cannot reconfigure the new physical channel for the failure of L1 configuration and for the failure of the reversion to the old configuration.

8.2.6.4.4 Method of test

Initial Condition

System Simulator : 2 cells- Cell 1 is active, Cell 2 is inactive

UE : CELL_DCH in cell 1

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes new uplink and downlink frequency parameters and does not reconfigure L1. The UE is expected to fail to reconfigure the new physical channel and tries to revert to the old configuration after T312 expiry. The SS then deletes the old physical channel so that the UE would perform cell reselection and finds cell 2. It shall then transmit an RRC CONNECTION RE-ESTABLISHMENT REQUEST message which includes the IE"U-RNTI" on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message which includes a new TFCS according to the new transport channel. After the UE receives an RRC CONNECTION RE-ESTABLISHMENT message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS transmits the BCCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	The message includes new frequency information
3				SS does not reconfigure the physical channel to reflect the changes in step 2, at the same time, it deletes the old configuration so the UE cannot reconfigure the new physical channel and cannot revert to the old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE finds a new cell.2 and then transmits this message which includes the IE"U-RNTI" .
5		←	RRC CONNECTION RE-ESTABLISHMENT	This message indicates a new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	

Specific Message Contents

None.

8.2.6.4.5 Test requirement

After step3 the UE shall find the availability of cell 2, enter CELL_FACH state, and transmits RRC CONNECTION RE-ESTABLISHMENT message using RLC-TM mode on the uplink DCCH.

After step6 the UE shall be able to successfully re-establish an RRC connection in cell 2.

8.2.6.5 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Incompatible simultaneous reconfiguration)

8.2.6.5.1 Definition

8.2.6.5.2 Conformance requirement

The UE shall keep its old configuration when the UE receives another PHYSICAL CHANNEL RECONFIGURATION message before it completes the current reconfiguration according to an earlier PHYSICAL CHANNEL RECONFIGURATION message. The UE shall transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.5.3 Test purpose

To confirm that the UE keeps its current configuration when it receives another PHYSICAL CHANNEL RECONFIGURATION message before the completion of an existing physical channel reconfiguration .

8.2.6.5.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before it reconfigures the physical channel, the UE keeps the old configuration and transmits an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall indicate “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	Sent before the “Activation Time Info” specified in the message in step 1 has elapsed.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.5.5 Test requirement

After step2 the UE shall keep its old configuration and transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, which shall be set to “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.6.6 Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH (Hard handover to another frequency): Failure (Invalid message reception)

8.2.6.6.1 Definition

8.2.6.6.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message, which includes the spare value in the mandatory IE” DRX indicator”. It shall then transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message which contains the value “protocol error” in IE” failure cause” and also “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.6.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if it receives a PHYSICAL CHANNEL RECONFIGURATION message which uses a spare value in the mandatory IE” DRX indicator”.

8.2.6.6.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE , with a spare value in the mandatory IE” DRX indicator”. The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with a value “protocol error” in IE” failure cause” and also a value “Information element value not comprehended” in IE” Protocol error cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	This message contains an error in one of the mandatory IEs.
2	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those found in the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.6.6.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting value “protocol error” in IE” failure cause” and also setting value “Information element value not comprehended” in IE” Protocol error cause”.

8.2.6.7 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Success

8.2.6.7.1 Definition

8.2.6.7.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message when asked to perform a transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.7.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

8.2.6.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The UE shall then reconfigure the new physical channel according to this message. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the RACH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2				Reconfiguration of physical channel
3		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

None.

8.2.6.7.5 Test requirement

After step3 the UE shall transit from CELL_DCH to CELL_FACH and continue to communicate with SS on the common physical channel.

8.2.6.8 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.6.8.1 Definition

8.2.6.8.2 Conformance requirement

The UE shall keep its old configuration when it receives a PHYSICAL CHANNEL RECONFIGURATION message which includes unsupported configuration parameters. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration ~~unacceptable~~unsupported" indicated in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.8.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.6.8.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters. Specifically, the frequency cannot be supported by the UE. The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which and indicating "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	The message specifies the usage of an unsupported configuration for the UE
2	→		PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the physical channel and continue to communicate with the SS using the original configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8.2.6.8.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration ~~unacceptable~~unsupported" specified in IE" failure cause".

8.2.6.9 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Failure (Physical channel failure)

8.2.6.9.1 Definition

8.2.6.9.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, during the transition from CELL_DCH to CELL_FACH.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.9.3 Test purpose

To confirm that the UE perform a cell reselection and cell update procedure when the it fail to access the assigned physical channel, according to a PHYSICAL CHANNEL RECONFIGURATION message, during the transition from CELL_DCH to CELL_FACH.

8.2.6.9.4 Method of test

Initial Condition

System Simulator : 2 cells Cell 1 is active, Cell 2 is inactive

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a PHYSICAL CHANNEL RECONFIGURATION message, resulting in the UE to attempt to transit from CELL_DCH to CELL_FACH. The UE is expected to fail to access the assigned physical channel as the SS ceases downlink transmission in cell 1. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The procedure completes when the SS confirms UE's cell update request.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	The message assigns common resources so that the UE is expected to execute a transition from CELL_DCH to CELL_FACH
3				The UE shall detect a failure to use the assigned common physical channel and try to perform a cell reselection.
4		→	CELL UPDATE	The UE discover the presence of cell 2 and triggers a cell update procedure.
5		←	CELL UPDATE CONFIRM	SS sends this message so that the UE moves to CELL_PCH state.

Specific Message Contents

None

8.2.6.9.5 Test requirement

After step3 the UE shall discover the presence of cell 2, enter CELL_FACH state, and initiate a cell update procedure in that cell.

8.2.6.10 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.6.10.1 Definition

8.2.6.10.2 Conformance requirement

The UE shall keep its old configuration when it receives another PHYSICAL CHANNEL RECONFIGURATION message before the existing reconfiguration request has been completed. The UE shall transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating the reason "incompatible simultaneous reconfiguration" in IE"failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.10.3 Test purpose

To confirm that the UE keeps its original configuration when the UE receives a second PHYSICAL CHANNEL RECONFIGURATION message before it reconfigures the physical channel according to an earlier PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.10.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the physical channel, the UE shall keep the old configuration and transmits an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall specify value “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the time specified in “Activation Time Info” in the message of step 1.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.10.5 Test requirement

After step2 the UE shall keep its old configuration, transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, and set the cause “incompatible simultaneous reconfiguration” in IEfailure cause”.

8.2.6.11 Physical channel reconfiguration for transition from CELL_DCH to CELL_FACH: Failure (Invalid message reception)

8.2.6.11.1 Definition

8.2.6.11.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message which includes the spare value in the mandatory IE” DRX indicator” . It shalltransmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message, indicating “protocol error” in IE” failure cause” and indicating “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.11.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received a PHYSICAL CHANNEL RECONFIGURATION message uses a spare value in the mandatory IE" DRX indicator".

8.2.6.11.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which contains a spare value in the mandatory IE" DRX indicator". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, which comprises the reason "protocol error" in IE" failure cause" and reason "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	The message contains a error in one of the mandatory IE.
2		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.6.11.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The failure message shall specify "protocol error" in IE" failure cause" and include "Information element value not comprehended" in IE" Protocol error cause".

8.2.6.12 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Success

8.2.6.12.1 Definition

8.2.6.12.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, which triggers a transition from CELL_FACH to CELL_DCH.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.12.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message received from the UTRAN, in the case of an assignment of dedicated physical resource from the common physical channels used previously by the UE.

8.2.6.12.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE to start a transition from CELL_FACH to CELL_DCH. The UE shall reconfigure the new physical channel correctly according to this message. To complete this procedure, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	
2				The UE shall reconfigure the physical channel in order to start using the dedicated channels allocated.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

None.

8.2.6.12.5 Test requirement

After step3 the UE shall transit from CELL_FACH to CELL_DCH and continue to communicate with SS on the dedicated physical channel.

8.2.6.13 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.6.13.1 Definition

8.2.6.13.2 Conformance requirement

The UE shall keep its old configuration when the it receives a PHYSICAL CHANNEL RECONFIGURATION message, which specifies unsupported configuration parameters for the UE. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, reporting the cause "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.13.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.6.13.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported frequencies for the UE. The PHYSICAL CHANNEL RECONFIGURATION is structured in such a manner as to trigger a transition from CELL_FACH to CELL_DCH in the UE. The UE shall responds with a PHYSICAL CHANNEL RECONFIGURATION FAILURE message sent on the DCCH using AM RLC, setting "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	Includes unsupported frequencies for the UE
2		→	PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the physical channel configuration, this message shall be sent using the original allocated physical resource.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Configuration ~~unacceptable~~unsupported
Other information element	Not checked

8.2.6.13.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, the IE" failure cause" shall be set to "configuration ~~unacceptable~~unsupported".

8.2.6.14 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion to old configuration)

8.2.6.14.1 Definition

8.2.6.14.2 Conformance requirement

The UE shall revert to the old configuration when the UE fails to reconfigure the new physical channel by timer T312 expiry. It shall report the failure by transmitting a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating "physical channel failure" in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.14.3 Test purpose

To confirm that the UE reverts to the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the UE fails to reconfigure the new physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message by the T312 expiry.

8.2.6.14.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, requesting it to transit from CELL_FACH to CELL_DCH due to a switch in physical resource reallocation. However, it does not reconfigure the new physical channel accordingly but continue to use the old configuration. Consequently, the UE shall fail to reconfigure the new physical channel, and after T312 expiry the UE attempt to revert to the old configuration. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which reports "physical channel failure" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2				The SS does not reconfigure the physical channel, hence the UE shall detect a failure to reconfigure to the new physical channel.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	After T312 expiry the UE reverts to the old configuration and transmits this message.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Physical channel failure
Other information element	Not checked

8.2.6.14.5 Test requirement

After step2 the UE shall revert to the old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, specifying “physical channel failure” in IE” failure cause”.

8.2.6.15 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Physical channel failure and reversion failure)

8.2.6.15.1 Definition

8.2.6.15.2 Conformance requirement

The UE shall perform an RRC connection re-establishment procedure when the UE fails to revert to the old configuration after the detection of physical channel failure in the physical channel reconfiguration procedure.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.15.3 Test purpose

To confirm that the UE initiates an RRC connection re-establishment procedure after it fails to reconfigure the new physical channel and experiences a subsequent failure to revert to the old configuration.

8.2.6.15.4 Method of test

Initial Condition

System Simulator : 2 cells- Cell 1 is active, Cell 2 is inactive

UE : CELL_FACH in cell 1

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, but it does not reconfigure L1 accordingly. This is expected to cause the UE to fail to reconfigure to the new physical channel. As a result, the UE shall try to revert to the old configuration after timer T312 expiry. However, the SS deletes the old physical channel before timer T312 has expired. Therefore, UE shall reselect to cell 2 and sends an RRC CONNECTION RE-

ESTABLISHMENT REQUEST message, which includes its previously assigned U-RNTI on the uplink CCCH. The SS transmits an RRC CONNECTION RE-ESTABLISHMENT message, which includes a new TFCS according to the new transport channel used. After the UE receives this message, it reconfigures the new radio connection and transmits an RRC CONNECTION RE-ESTABLISHMENT COMPLETE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS begins to transmit the BCCH in a cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	
3				The SS does not reconfigure the physical channel and deletes the old configuration. As a result, UE should encounter a failure to reconfigure the new physical channel, then attempt to revert to the old configuration.
4		→	RRC CONNECTION RE-ESTABLISHMENT REQUEST	The UE shall find cell 2 and then transmit this message with its U-RNTI included.
5		←	RRC CONNECTION RE-ESTABLISHMENT	This message specifies a new TFCS according to the new transport channel.
6		→	RRC CONNECTION RE-ESTABLISHMENT COMPLETE	UE shall send this message in the cell 2.

Specific Message Contents

None.

8.2.6.15.5 Test requirement

After step3 the UE shall detect the presence of cell 2, camp onto it, and transmit a RRC CONNECTION RE-ESTABLISHMENT REQUEST message.

After step6 the UE shall successfully re-establish the RRC connection in cell 2.

8.2.6.16 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Incompatible simultaneous reconfiguration)

8.2.6.16.1 Definition

8.2.6.16.2 Conformance requirement

The UE shall keep its old configuration when it receives another PHYSICAL CHANNEL RECONFIGURATION message before the completion of an earlier physical channel reconfiguration procedure. Then the UE shall transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC and indicate “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.16.3 Test purpose

To confirm that the UE keeps its old configuration, if receives another PHYSICAL CHANNEL RECONFIGURATION message before it manages to complete reconfiguring the physical channel according to an earlier PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.16.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to command the UE to perform a physical channel reconfiguration. The starting time for this action is specified. However, before the passing of the indicated starting time, SS sends another PHYSICAL CHANNEL RECONFIGURATION message. The UE shall stop the existing reconfiguration, maintains the old configuration, and transmits an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC indicating “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the frame number specified in IE“activation time info” of the message dispatched in step 1.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.16.5 Test requirement

After step2 the UE shall keep its old configuration and transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting the value “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.6.17 Physical channel reconfiguration for transition from CELL_FACH to CELL_DCH: Failure (Invalid message reception)

8.2.6.17.1 Definition

8.2.6.17.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message containing a spare value in the mandatory IE” DRX indicator”. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message, set “protocol error” in IE” failure cause” and also set “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.17.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC if the received message uses a spare value in the mandatory IE" DRX indicator".

8.2.6.17.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which comprises a spare value in the mandatory IE" DRX indicator". The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, setting "protocol error" in IE" failure cause" and also setting "Information element value not comprehended" in IE" Protocol error cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	Contains a mandatory error due to illegal use of spare value
2	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.6.17.5 Test requirement

After step1 the UE shall keep its old configuration, transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC with "protocol error" in IE" failure cause" and also "Information element value not comprehended" in IE" Protocol error cause".

8.2.6.18 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Success

8.2.6.18.1 Definition

8.2.6.18.2 Conformance requirement

The UE shall correctly reconfigure a physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message when asked to perform a transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.18.3 Test purpose

To confirm that the UE reconfigures a new physical channel according to the PHYSICAL CHANNEL RECONFIGURATION message received from the SS.

8.2.6.18.4 Method of test

Initial Condition

System Simulator : 2 cells Cell 1 is active, Cell 2 is inactive

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS starts to broadcast the BCCH in cell 2 and transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE. The UE shall then reconfigure the new physical channel according to this message. Following this, it shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using AM RLC on the RACH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	
3				Reconfiguration of physical channel
4		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

None.

8.2.6.18.5 Test requirement

After step3 the UE shall transit from CELL_FACH to CELL_FACH in the another cell and continue to communicate with SS on the common physical channel.

8.2.6.19 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Failure (Unsupported ~~or Unacceptable~~ configuration)

8.2.6.19.1 Definition

8.2.6.19.2 Conformance requirement

The UE shall keep its old configuration when it receives a PHYSICAL CHANNEL RECONFIGURATION message which includes unsupported configuration parameters. It shall then transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration ~~unacceptable~~unsupported" indicated in IE" failure cause".

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.19.3 Test purpose

To confirm that the UE keeps its configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes unsupported configuration parameters.

8.2.6.19.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE, which includes unsupported configuration parameters. Specifically, the frequency cannot be supported by the UE. The UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC which and indicating "configuration ~~unacceptable~~unsupported" in IE" failure cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	The message specifies the usage of an unsupported configuration for the UE
2		→	PHYISICAL CHANNEL RECONFIGURATION FAILURE	The UE does not change the physical channel and continue to communicate with the SS using the original configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Frequency info - UARFCN uplink(Nu) - UARFCN downlink(Nd)	 63984 Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type Failure cause Other information element	 Configuration ~~unacceptable~~unsupported Not checked

8.2.6.19.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, with the reason "configuration ~~unacceptable~~unsupported" specified in IE" failure cause".

8.2.6.20 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Failure (Physical channel failure)

8.2.6.20.1 Definition

8.2.6.20.2 Conformance requirement

The UE shall initiate the cell reselection procedure when the UE cannot use the assigned physical channel according to a PHYSICAL CHANNEL RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.20.3 Test purpose

To confirm that the UE perform a cell reselection and cell update procedure when the it fail to access the assigned physical channel, according to a PHYSICAL CHANNEL RECONFIGURATION message, during the transition from CELL_FACH to CELL_FACH in the another cell.

8.2.6.20.4 Method of test

Initial Condition

System Simulator : 3 cells Cell 1 is active, Cell 2 is inactive, Cell 3 is inactive

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state in cell 1. The SS begins to broadcast the BCCH in cell 2 and then transmits a PHYSICAL CHANNEL RECONFIGURATION message, resulting in the UE to attempt to transit from CELL_FACH in cell 1 to CELL_FACH in cell 3. The UE is expected to fail to access the assigned physical channel as the SS ceases downlink transmission in cell 3. After the UE successfully camp onto cell 2, it shall initiate the cell update procedure in cell 2. The procedure completes when the SS confirms UE's cell update request.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	BCCH	The SS starts to broadcast the BCCH in cell 2.
2		←	PHYSICAL CHANNEL RECONFIGURATION	The message assigns common resources so that the UE is expected to execute a transition from CELL_FACH in cell 1 to CELL_FACH in cell 3
3				The UE shall detect a failure to use the assigned common physical channel and try to perform a cell reselection.
4		→	CELL UPDATE	The UE discover the presence of cell 2 and triggers a cell update procedure.
5		←	CELL UPDATE CONFIRM	SS sends this message so that the UE moves to CELL_FACH state.

Specific Message Contents

None

8.2.6.20.5 Test requirement

After step3 the UE shall discover the presence of cell 2, enter CELL_FACH state, and initiate a cell update procedure in that cell.

8.2.6.21 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Failure (Incompatible simultaneous reconfiguration)

8.2.6.21.1 Definition

8.2.6.21.2 Conformance requirement

The UE shall keep its old configuration when it receives another PHYSICAL CHANNEL RECONFIGURATION message before the existing reconfiguration request has been completed. The UE shall transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, indicating the reason “incompatible simultaneous reconfiguration” in IE”failure cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.21.3 Test purpose

To confirm that the UE keeps its original configuration when the UE receives a second PHYSICAL CHANNEL RECONFIGURATION message before it reconfigures the physical channel according to an earlier PHYSICAL CHANNEL RECONFIGURATION message.

8.2.6.21.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. When the SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE before the UE reconfigures the physical channel, the UE shall keep the old configuration and transmits an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. This message shall specify value “incompatible simultaneous reconfiguration” in IE”failure cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		←	PHYSICAL CHANNEL RECONFIGURATION	Sent before the elapse of the time specified in “Activation Time Info” in the message of step 1.
3		→	PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Activation Time Info	Current CFN-[current CFN mod 8 + 8]

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	Incompatible simultaneous reconfiguration
Other information element	Not checked

8.2.6.21.5 Test requirement

After step2 the UE shall keep its old configuration, transmit an PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, and set the cause “incompatible simultaneous reconfiguration” in IE”failure cause”.

8.2.6.22 Physical channel reconfiguration for transition from CELL_FACH to CELL_FACH: Failure (Invalid message reception)

8.2.6.22.1 Definition

8.2.6.22.2 Conformance requirement

The UE shall keep its old configuration when the UE receives a PHYSICAL CHANNEL RECONFIGURATION message which includes the spare value in the mandatory IE” DRX indicator” . It shalltransmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message, indicating “protocol error” in IE” failure cause” and indicating “Information element value not comprehended” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.2.6

8.2.6.22.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, if the received a PHYSICAL CHANNEL RECONFIGURATION message uses a spare value in the mandatory IE” DRX indicator”.

8.2.6.22.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message to the UE which contains a spare value in the mandatory IE” DRX indicator”. The UE keeps the old configuration and transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC, which comprises the reason “protocol error” in IE” failure cause” and reason “Information element value not comprehended” in IE” Protocol error cause”.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	The message contains a error in one of the mandatory IE.
2	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	The UE shall not change the configuration.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
DRX indicator	spare value

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Message Type	
Failure cause	
- Failure cause	Protocol error
- Protocol error information	
- Protocol error cause	Information element value not comprehended
Other information element	Not checked

8.2.6.22.5 Test requirement

After step1 the UE shall keep its old configuration and transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM RLC. The failure message shall specify "protocol error" in IE" failure cause" and include "Information element value not comprehended" in IE" Protocol error cause".

8.2.6.27 Physical Channel Reconfiguration from CELL_DCH to CELL_PCH: Success

8.2.6.27.1 Definition

8.2.6.27.2 Conformance requirement

The UE shall transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to CELL_PCH when receives a PHYSICAL CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.6.27.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message before entering CELL_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state in the same cell.

8.2.6.27.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into CELL_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	←		PHYSICAL CHANNEL RECONFIGURATION	
2	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Physical Channel after state transition.
4	←		PAGING TYPE 1	The SS transmits this message included a matched identity.
5	→		CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with CELL updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Paging originator	UTRAN originator
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.6.27.5 Test requirement

After step 1 the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.6.28 Physical Channel Reconfiguration from CELL_DCH to URA_PCH: Success

8.2.6.28.1 Definition

8.2.6.28.2 Conformance requirement

The UE shall transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to URA_PCH when receives a PHYSICAL CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.6.28.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message before entering URA_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state.

8.2.6.28.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_DCH(state 6-10) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Physical Channel after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with URA updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	 UTRAN originator Previously assigned SRNC identity Previously assigned S-RNTI

8.2.6.28.5 Test requirement

After step 1 the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to URA_PCH.

8.2.6.29 Physical Channel Reconfiguration from CELL_FACH to CELL_PCH: Success

8.2.6.29.1 Definition

8.2.6.29.2 Conformance requirement

The UE shall transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_DCH to CELL_PCH when receives a PHYSICAL CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.6.29.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message before entering CELL_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state.

8.2.6.29.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Physical Channel after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_DCH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with CELL updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI	 UTRAN originator Previously assigned SRNC identity Previously assigned S-RNTI

8.2.6.29.5 Test requirement

After step 1 the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_DCH to CELL_PCH.

8.2.6.30 Physical Channel Reconfiguration from CELL_FACH to URA_PCH: Success

8.2.6.30.1 Definition

8.2.6.30.2 Conformance requirement

The UE shall transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using and transits from CELL_FACH to URA_PCH when receives a PHYSICAL CHANNEL RECONFIGURATION message. And then, the UE shall reconfigure radio bearers according to the PHYSICAL CHANNEL RECONFIGURATION message.

Reference

3GPP TS 25.331 clause 8.2.2

8.2.6.30.3 Test purpose

To confirm that the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message before entering URA_PCH state after it received a PHYSICAL CHANNEL RECONFIGURATION message and reconfigured its radio bearers. The UE is in CELL_PCH state.

8.2.6.30.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: PS-DCCH+DTCH_FACH(state 6-11) as specified in clause 7.4 of TS 34.108

Test Procedure

The UE is in the CELL_FACH state. The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message. The UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE using AM RLC and enters into URA_PCH state. The SS transmits a PAGING TYPE 1 message and the UE accepts it and enters the CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PHYSICAL CHANNEL RECONFIGURATION	
2		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE sends this message before start state transition.
3				Reconfiguration of Physical Channel after state transition.
4		←	PAGING TYPE 1	The SS transmits this message included a matched identity.
5		→	CELL UPDATE	The UE is in CELL_FACH state.

Specific Message Contents

PHYSICAL CHANNEL RECONFIGURATION (Step 1)

Use the same message sub-type titled “Packet to CELL_FACH from CELL_FACH in PS“ in Annex A with following exceptions:

Information Element	Value/remark
DRX indicator	DRX with URA updating

PAGING TYPE 1 (Step 4)

Use the same message sub-type titled “TM (SMS in PS)“ in Annex A with following exceptions:

Information Element	Value/remark
Paging record list	
Paging record	
- CHOICE Paging originator	UTRAN originator
- U-RNTI	
- SRNC Identity	Previously assigned SRNC identity
- S-RNTI	Previously assigned S-RNTI

8.2.6.30.5 Test requirement

After step 1 the UE transmits PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to the UE on uplink DCCH using AM RLC.

After step 3 the UE shall transit from CELL_FACH to URA_PCH.

8.2.7 Physical Shared Channel Allocation[TDD only]

[Editor's note : This message is not included in Release99 so this is FFS.]

8.2.8 PUSCH capacity request[TDD only]

[Editor's note : This message is not included in Release99 so this is FFS.]

8.2.9 Downlink outer loop control

For all following sub-clauses, all references to RRC CONNECTION SETUP messages shall use the default settings provided in clause 9 of TS 34.108, unless otherwise stated.

8.2.9.1 Downlink outer loop control: Increase is Disallowed

8.2.9.1.1 Definition

8.2.9.1.2 Conformance requirement

The UE shall maintain its existing internal target SIR value after it has received DOWNLINK OUTER LOOP CONTROL message which forbids further adjustment of SIR target. This restriction shall be observed even if the UE has detect that the current SIR target is not sufficient to achieve the downlink quality demanded by the UTRAN.

Reference

3GPP TS 25.331 clause 8.2.9

8.2.9.1.3 Test purpose

To confirm that the UE keeps its target SIR value after it receives a DOWNLINK OUTER LOOP CONTROL message with the IE "Downlink Outer Loop Control" set to "TRUE".

8.2.9.1.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH state with the no restriction by the DL outer loop power control

Test Procedure

The UE is in the CELL_DCH state and the SS adjusts its transmission power as the current SIR estimation by the UE has reached the same target SIR value determined autonomously by the UE. This condition can be observed when the TPC command bits on the DPCCH physical channel has stabilized (consistently alternating between values 0 and 1). The SS transmits the DOWNLINK OUTER LOOP CONTROL message, which is set to "TRUE" in IE "Downlink Outer Loop Control". Then the SS generates erroneous framessuch that the measured BLER in the UE falls below the value specified in IE" BLER Quality Value" of the RRC CONNECTION SETUP message received during the mobile-terminated RRC connection establishment procedure (described in clause 7.1.2 of TS 34.108). The UE shall detect this change but it maintains the current SIR target value and does not request that SS increases downlink transmission power by settting TPC in DPCCH to "1".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The SS adjusts its transmission power as such that the measured value of SIR in the UE is the same as the SIR target value determined by the UE. The target SIR value is chosen by the UE in order that the target BLER value requested by SS is achieved.
2	←		DOWNLINK OUTER LOOP CONTROL	Set value “TRUE” in IE“Downlink Outer Loop Control”.
3				The SS starts to generate some error frames. The current SIR target in the UE cannot guarantee target BLER value specified earlier.
4				The UE shall keeps the existing SIR target value and it shall not request that the DL transmission power be increased using TPC bits in DPCCH physical channel.

Specific Message Content

DOWNLINK OUTER POWER CONTROL

Information Element	Value/remark
Integrity check info	Not Present
Downlink Outer Loop Control	
- DL Outer loop control	Increased not allowed
Downlink DPCH power control information	
- DPC Mode	Single

8.2.9.1.5 Test requirement

After step3 the SS shall keep the target SIR value as same as step1 and it shall not request for the downlink transmission power be increased by setting TPC bits to “1”.

8.2.9.2 Downlink outer loop control: Increase is Allowed

8.2.9.2.1 Definition

8.2.9.2.2 Conformance requirement

The downlink power control procedure is used to control the downlink outer loop power control running in the UE. If the UE receives the DOWNLINK OUTER LOOP CONTROL message with value “FALSE” in IE “Downlink Outer Loop Control”, it shall remove any exisiting restriction of DL outer loop power control. The UE shall begin to increase its DL target SIR value and make the DL transmission power increase until the desired BLER value for the DPCH transport channel has been attained.

Reference

3GPP TS 25.331 clause 8.2.9

8.1.2.9.2.3 Test purpose

To confirm that the UE begins to exercise DL outer loop power control, in order to increase the target SIR value, after it had received a DOWNLINK OUTER LOOP CONTROL message specifying “FALSE” in IE “Downlink Outer Loop Control”.

8.2.9.2.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH state with the restriction by the DL outer loop power control Test Procedure

The UE is in the CELL_DCH state with the restriction by the DL outer loop power control. The internal SIR target value determined by the UE is expected to be insufficient to allow the UE to achieve target BLER figure. The SS transmits the DOWNLINK OUTER LOOP CONTROL message, setting the value “FALSE” in IE “Downlink Outer Loop Control”. Then the UE shall update its SIR target value and make the DL transmission power increase.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to the same state as the end of step 4 in Clause 8.1.2.9.1.3.
2	←		DOWNLINK OUTER LOOP CONTROL	Set the value “FALSE” in IE“Downlink Outer Loop Control”.
3				The UE shall beginto request that the DL transmission power be increased. This is done by setting the TPC field to “1” in DPCCH.

8.2.9.2.5 Test requirement

After step3 the SS shall increase the DL transmission power more than step1.

8.2.9.3 Downlink outer loop control: Failure (Invalid message reception)

8.2.9.3.1 Definition

8.2.9.3.2 Conformance requirement

The UE shall correctly handle an erroneous DOWNLINK OUTER LOOP CONTROL message, and perform the appropriate error-handling procedure. Specifically, it shall not alter the downlink power control mechanism, which is currently being applied. It shall also transmit a RRC STATUS message using RLC-AM mode on the DCCH channel, state the appropriate failure cause.

Reference

3GPP TS 25.331 clause 8.2.9

8.2.9.3.3 Test purpose

To confirm that the UE transmits an RRC STATUS message on the DCCH using AM RLC when it receives a DOWNLINK OUTER LOOP CONTROL message, containing an invalid conditional IE with respect to the state of the UE.

8.2.9.3.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : CELL_DCH and the integrity protection algorithm is not applied.

Test Procedure

The UE is in CELL_DCH state. Test steps 1 to 3 described in clause 8.2.9.1.4 are repeated. Next, the SS transmits another DOWNLINK OUTER LOOP CONTROL message, removing the power increase restriction, and at the same time includes the conditional IE" Integrity Check Info". The UE shall not request for an increase in the downlink transmission power through the TPC command field in DPCCH. It shall transmit RRC STATUS message stating the value "Message extension not comprehended" in IE"protocol cause".

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				Executes step 1 to step 3 in clause 8. 2.9.1.4.
2	←		DOWNLINK OUTER LOOP CONTROL	Contains an unexpected information element "Integrity Check Info" in the message. See specific message content.
3	→		RRC STATUS	The UE shall request for an increase in downlink transmission power. The message shall specify cause "Message extension is not comprehended" in IE"Protocol Error Information"
4				The UE shall not request for an increase in downlink transmission power. SS verifies the value of TPC field in DPCCH.

Specific Message Content

DOWNLINK OUTER LOOP CONTROL (Step 2)

The contents of DOWNLINK OUTER LOOP CONTROL message in this test case is identical to those of the default contents of layer 3 messages for RRC tests with the following exceptions:

Information Element	Value/remark
Integrity Check Info - Message authentication code - RRC Message Sequence	Present An arbitrary 32-bits string An arbitrarily chosen integer from range (0….15)

RRC STATUS

Information Element	Value/remark
Message Type	
Protocol error information	Information element value not comprehended
Other information element	Not checked

8.2.9.3.5 Test requirement

After step4 the UE shall keep its restriction for increase in downlink transmission power and not set TPC command fields in DPCCH to "1". It shall transmit an RRC STATUS message on the DCCH using AM RLC, indicating "Information element value not comprehended" in IE" Protocol error cause".

8.3 RRC connection mobility procedure

8.3.1 Cell Update

8.3.1.1 Cell Update: cell reselection in CELL_FACH

Definition

8.3.1.1.2 Conformance requirement

This procedure is used to update UTRAN with the current cell of the UE after it has perform a cell reselection in CELL_FACH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.1.3 Test purpose

To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell. To confirm that the UE send the correct uplink respond message when executing cell update procedure due to cell reselection.

8.3.1.1.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive

UE: CELL_FACH in cell 1

Test Procedure

The UE is in the CELL_FACH state, camping onto cell 1. The SS starts to broadcast BCCH on the primary CPICH in cell 2 with a power level greater than that in cell 1. The UE shall find cell 2 to be more suitable for service and hence perform a cell reselection. After the completion of cell reselection, the UE shall transmits a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE" Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE"DRX Indicator" set to "DRX with Cell updating", to the UE on the downlink DCCH. SS verifies that the UE does not send any response to this message. UE shall move to CELL_PCH state. SS then reverses the transmission power of cell 1 and cell 2. The UE shall send a CELL UPDATE message on the uplink CCCH of cell 1. SS replies with CELL UPDATE CONFIRM message and allocates new C-RNTI and U-RNTI identities to the UE. The IE"DRX Indicator" is set to "No DRX" in this message. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message. Following this, SS reverses the transmission power settings for cell 1 and cell 2 again. The UE shall initiate a cell update procedure by transmitting a CELL UPDATE message and stating the cause as 'cell re-selection'. SS replies with a CELL UPDATE CONFIRM message which contains IE"PRACH Info" and IE"Secondary CCPCH Info". The UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge the assignment of the new physical resources.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state in cell 1
2	←		BCCH	The SS starts to broadcast BCCH on the primary CPICH in cell 2 with a power level that is higher than that in cell 1. The UE shall find that the cell 2 is better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 2.
3	→		CELL UPDATE	Value “cell reselection” should be indicated in IE” Cell update cause”
4	←		CELL UPDATE CONFIRM	IE”DRX Indicator” is set to “DRX with cell updating”
5				SS checks the uplink PRACH channel to verify that no response is sent by UE. SS reverses the transmission power level of cell 1 and cell 2.
6	→		CELL UPDATE	UE shall revert to normal service in cell 1 and set the cause to “cell reselection”.
7	←		CELL UPDATE CONFIRM	IE”DRX Indicator” is set to “No DRX”. New C-RNTI and U-RNTI identities are assigned to the UE.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE moves to CELL_FACH state and sends this message.
9				SS reverses the transmission power level of cell 1 and cell 2.
10	→		CELL UPDATE	UE shall detect that cell 2 has become stronger.
11	←		CELL UPDATE CONFIRM	IE”DRX Indicator” is set to “No DRX”. At the same time, IE”PRACH Info” and IE”Secondary CCPCH Info” are also indicated.
12	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE moves to CELL_FACH state and sends this message on the new PRACH assigned in step 11.

Specific Message Contents

CELL UPDATE (Steps 3 and 6)

Use the same message sub-type found in Clause 8.1 of TS34.108.

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
DRX Indicator	DRX with cell updating

CELL UPDATE CONFIRM (Step 7)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	'0000 0000 0000 0001'
- S-RNTI	An arbitrary 20-bits string which is different from original S-RNTI
New C-RNTI	An arbitrary 16-bits string which is different from original C-RNTI.

CELL UPDATE (Step 10)

Use the same message sub-type found in Clause 8.1 of TS34.108.

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'
- S-RNTI	Check to see if set to same string in IE"S-RNTI" in IE"New U-RNTI" of CELL UPDATE CONFIRM message in step 7.
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 11)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	‘0000000000000011’B:Signature 0&1
~~- Signature~~	~~0 and 1~~
- Available SF	Refer to the parameter set for TS 34.108
- Preamble ~~S~~scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	‘000000000011’B:SubChNumber 0&1
~~- Sub-Channel number~~	~~0 and 1~~
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1’s P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
~~- Selection Indicator~~	~~Not Present~~
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

8.3.1.1.5 Test requirement

After step 2 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value “cell reselection” in IE” Cell update cause”.

After step 4 the UE shall not transmit any uplink message in response to the CELL UPDATE CONFIRMATION message received in step 4.

After step 5 the UE shall sent CELL UPDATE message to cell 2, in order to indicate that a cell reselection has taken place.

After step 7 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge that it has started to use the new RNTI identities allocated.

After step 9 the UE shall sent CELL UPDATE message to cell 1, in order to indicate that a cell reselection has taken place.

After step 11 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the new PRACH physical channel assigned previously in CELL UPDATE CONFIRM message sent in step 11.

8.3.1.2 Cell Update: cell reselection in CELL_PCH8.3.1.2.1 Definition

8.3.1.2.2 Conformance requirement

This procedure is to update UTRAN with information of the current cell, after a cell reselection has occurred in CELL_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.2.3 Test purpose

To confirm that the UE, in CELL_PCH state, executes a cell update procedure after the successful reselection of another UTRA cell. To confirm that the UE replies with an appropriate uplink message after receiving CELL UPDATE CONFIRM message during the cell update procedure.

8.3.1.2.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active, Cell 2 is inactive

UE: CELL_PCH in cell 1

Test Procedure

The UE is brought to CELL_PCH state and is camped onto cell 1. The SS starts to broadcast system information on the BCCH on the primary CPICH in cell 2. The transmission level of cell 2 is raised to be higher than in cell 1. When the UE detects the presence of cell 2, it moves to CELL_FACH state and transmits a CELL UPDATE message on the uplink CCCH. The value “cell reselection” shall be set in IE” Cell update cause” in CELL UPDATE message. Upon reception of CELL_UPDATE message, the SS transmits a CELL UPDATE CONFIRM message which includes the IEs” PRACH info”, ”Secondary CCPCH info” to the UE on the downlink DCCH. In this message, the IE”DRX Indicator” is set to ”No DRX”. Then the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH and enters CELL_FACH state. SS exchanges the transmission power of cell 1 and cell 2, so that cell 1 becomes the stronger cell. UE shall initiate a cell update procedure again by transmitting CELL UPDATE message. SS replies with a CELL UPDATE CONFIRM message with the IE”DRX Indicator” set to “DRX with cell updating”. After receiving this message, the UE returns to CELL_PCH state without transmitting any uplink message. Finally, SS reverses the transmission strengths of cell 1 and cell 2 again. This will cause the UE to send CELL UPDATE message on the uplink PRACH of cell 2. SS then sends CELL UPDATE CONFIRM message with the assignment of new C-RNTI and U-RNTI identities. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message as a response.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_PCH state in cell 1
2		←	BCCH	The SS starts to broadcast system information message on BCCH on the primary CPICH from cell 2. The transmission level of cell 2 is set to be higher than that in cell 1. The UE shall find that the cell 2 is better and attempt to perform a cell reselection.
3		→	CELL UPDATE	The UE moves to CELL_FACH state and transmits this message with the IE" Cell update cause" set to "cell reselection"
4		←	CELL UPDATE CONFIRM	The message includes IEs" PRACH info", "Secondary CCPCH info" and set IE"DRX Indicator" to "No DRX".
5		→	PHYSICAL CHANNEL RECONFIGURATION CONFIRM	UE stays in CELL_FACH state.
6				SS swaps the transmission power of cell 1 and cell 2, making cell 1 the stronger cell.
7		→	CELL UPDATE	
8		←	CELL UPDATE CONFIRM	IE"DRX Indicator" is set to "DRX with cell updating".
9				UE moves to CELL_PCH state. SS exchanges the transmission power of cell 1 and cell 2.
10		→	CELL UPDATE	UE shall re-select to cell 2 and transmit this message.
11		←	CELL UPDATE CONFIRM	Includes IE"new U-RNTI" and IE"new C-RNTI"
12		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

CELL UPDATE (Steps 3, 7 and 10)

Use the same message sub-type found in Clause 8.1 of TS34.108.

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
STRAT List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 4)

Use the same message found in step 11 of Clause 8.1.3.1.1.3

CELL UPDATE CONFIRM (Step 8)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
DRX Indicator	DRX with cell updating

CELL UPDATE CONFIRM (Step 11)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
New U-RNTI - SRNC Identity - S-RNTI New C-RNTI	 '0000 0000 0000 0001' An arbitrary 20-bits string which is different from original S-RNTI An arbitrary 16-bits string which is different from original C-RNTI.

8.3.1.2.5 Test requirement

After step 2 the UE shall reselect to cell 2 and transmit a CELL UPDATE message, containing the IE" Cell update cause" set to "cell reselection".

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 9 the UE shall detect that cell 2 has become the stronger cell. It shall send a CELL UPDATE message on cell 2' PRACH channel with the cause set to "cell reselection".

After step 11 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

8.3.1.3 Cell Update: periodical cell update in CELL_FACH

8.3.1.3.1 Definition

8.3.1.3.2 Conformance requirement

This procedure is to update UTRAN with the current cell information, after the UE has remained in the service area in the CELL_FACH state for a period exceeding the timer value T305.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.3.3 Test purpose

To confirm that the UE executes a periodic cell update procedure following the expiry of timer T305. To confirm that the UE sends a correct response to the CELL UPDATE CONFIRM message. To confirm that the UE listens to the system information messages and then responds to a change in the setting for timer T305.

8.3.1.3.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH

Test Procedure

The UE is in CELL_FACH state. When the UE detects the expiry of timer T305 according to the settings in system information, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH with a cause indicating periodic cell updating. SS replies with a CELL UPDATE CONFIRM message, omitting the IEs

“new C-RNTI”, “new U-RNTI”, “PRACH Info” and “Secondary CCPCH Info”. The IE”DRX Indicator”, however, is specified and set to “No DRX”. SS verifies that the UE does not transmit any uplink message. SS then waits for T305 to expire again. The UE shall send another CELL UPDATE message to report periodic cell updating. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the IEs ”new C-RNTI”, “new U-RNTI” to the UE on the downlink DCCH. Then the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH to acknowledge the receipt of the new UE identities. SS once again allows T305 timer to expire, the UE shall transmit CELL UPDATE message for the third time. The new U-RNTI shall be indicated in this message together with the correct updating cause. In this sequence, SS replies with a CELL UPDATE CONFIRM message containing new channel parameters in IEs “PRACH Info” and “Secondary CCPCH Info”. The UE shall then send a PHYSICAL CHANNEL RECONFIGURTION COMPLETE message by using the newly allocated PRACH resources. Finally, the content of the SYSTEM INFORMATION BLOCK TYPE 2 is changed to disable periodic cell updating. SS then monitors the uplink DCCH for a period up to the maximum possible value for timer T305 (720minutes) and verifies that no CELL_UPDATE message is received. After this, the SS changes the timer T305 value to 5 minutes. UE shall resume periodic cell updating procedure and transmit CELL_UPDATE message 5 minutes after this modification.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state. SS waits until T305 has expired.
2	→		CELL UPDATE	IE “Cell update cause” shall be set to “Periodic cell updating”
3	←		CELL UPDATE CONFIRM	No RNTI identities are given. No information on PRACH and S-CCPCH are provided.
4				SS verifies that no uplink message is received from UE. SS waits for another period to allow T305 to expire.
5	→		CELL UPDATE	Which is set to “periodic cell update” in IE” Cell update cause” for the expiry of timer T305.
6	←		CELL UPDATE CONFIRM	Including IEs” new C-RNTI” , “new U-RNTI” and IE”DRX Indicator” is set to ”No DRX”
7	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	
8				SS waits for a duration to allow timer T305 in the UE to expire.
9	→		CELL UPDATE	
10	←		CELL UPDATE CONFIRM	IEs “PRACH Info” and “Secondary CCPCH Info” are included.
11	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
12	←		MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 2	SS changes the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents). It waits for 720 minutes and checks that no CELL UPDATE message is transmitted on uplink PRACH channel.

13	←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 2	SS modified the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK (see specific message contents) again.
14	→	CELL UPDATE	UE shall transmit this message 5 minutes after step 13, with “cell update cause” set to “periodic cell updating”
15	←	CELL UPDATE CONFIRM	

Specific Message Contents

CELL UPDATE (Step 2 and 5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to ‘0000 0000 0001’
- S-RNTI	Check to see if set to ‘0000 0000 0000 0000 0000 0001’
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to ‘FALSE’
AM_RLC error indicator (for U-plane)	Check to see if set to ‘FALSE’
START List	Checked to see if the ‘CN domain identity’ and ‘START’ IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to ‘Periodic cell updating’
Protocol error indicator	Check to see if it is absent or set to ‘FALSE’
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Clause 8.1 of TS34.108.

CELL UPDATE CONFIRM (Step 6 and 15)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	Set to ‘0000 0000 0001’
- S-RNTI	Set to an arbitrary string different from ‘0000 0000 0000 0000 0001’

CELL UPDATE (Step 9 and 14)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to ‘0000 0000 0000 0001’
- S-RNTI	Check to see if set to same bit string as in IE”S-RNTI” in IE”U-RNTI” of the CELL UPDATE CONFIRM message sent in step 6.
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to ‘FALSE’
AM_RLC error indicator (for U-plane)	Check to see if set to ‘FALSE’
START List	Checked to see if the ‘CN domain identity’ and ‘START’ IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to ‘Periodic cell updating’
Protocol error indicator	Check to see if it is absent or set to ‘FALSE’
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 10)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	‘0000000000000011’B:Signature 0&1
~~- Signature~~	~~0 and 1~~
- Available SF	Refer to the parameter set for TS 34.108
- Preamble ~~S~~scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	‘000000000011’B:SubChNumber 0&1
~~- Sub-Channel number~~	~~0 and 1~~
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1’s P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
~~- Selection Indicator~~	~~Not Present~~
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

MASTER INFORMATION BLOCK (Step 12)

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 2 (Step 12)

Information Element	Value/remark
UE Timers and constants in connected mode T305	No update Infinity

MASTER INFORMATION BLOCK (Step 13)

Information Element	Value/remark
MIB Tag	1

SYSTEM INFORMATION BLOCK TYPE 2 (Step 13)

Information Element	Value/remark
UE Timers and constants in connected mode T305	5 minutes

8.3.1.3.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305 then transmits a CELL UPDATE message setting value “periodic cell update” into IE” Cell update cause”.

After step 3 the UE shall not send any uplink message as a response to CELL UPDATE CONFIRM message sent in step 3.

After step 4 the UE shall send CELL UPDATE message, specifying the cell updating cause to be “periodic cell update”.

After step 6 the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

After step 8 the UE shall send CELL UPDATE message, specifying the cell updating cause to be “periodic cell update”.

After step 10 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message using the PRACH radio resources allocated.

Between step 12 and step 13 the UE shall cease periodic cell updating activity and not transmit any CELL UPDATE messages.

After step 13 the UE shall transmit a CELL UPDATE message stating the cell update cause to be periodic updating, 5 minutes after the SS has modified the BCCH data.

8.3.1.4 Cell Update: periodical cell update in CELL_PCH

8.3.1.4.1 Definition

8.3.1.4.2 Conformance requirement

This procedure is to update UTRAN with the information of the current cell when the UE detects that it is still in the service area, while residing in the CELL_PCH state, after the expiry of timer T305.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.4.3 Test purpose

To confirm that the UE, in CELL_PCH state, executes a cell update procedure after the expiry of timer T305. To confirm that the UE sends an appropriate response message after receiving the CELL UPDATE CONFIRM message.

8.3.1.4.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH

Test Procedure

The UE starts from CELL_PCH state. When the UE detects the expiry of periodic cell updating timer T305 according to the system information, the UE moves to CELL_FACH state. It shall transmit a CELL UPDATE message on the uplink CCCH and set the value “periodic cell update” into IE” Cell update cause”. SS answers with a CELL UPDATE CONFIRM message, with IE”DRX Indicator” set to “No DRX”. IEs related to RNTI, PRACH and S-CCPCH are omitted from this message. SS checks to confirm that the UE does not send a response. SS sends a ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message to the UE, stating the new C-RNTI identity to be used and also setting IE”DRX Indicator” to “DRX with cell updating”. The UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message and transit to CELL_PCH state. Next, SS stays idle until timer T305 is once again expired. The UE shall transmit CELL UPDATE message in order to initiate cell updating procedure. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the IEs”new C-RNTI” and “new U-RNTI”. Then the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and before entering CELL_PCH state. In the next sequence, SS assigns a new U-RNTI identity to the UE by transmitting ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message again. Once again, the IE”DRX Indicator” is set to “DRX with cell updating”. After reception of this message, the UE moves to CELL_PCH state and start to listen to the paging sub-channels derived based on the value of new U-RNTI given. Finally, SS waits until T305 has expired once more, the UE shall send CELL UPDATE message again on uplink CCCH. SS replies with CELL UPDATE CONFIRM which includes IEs “PRACH Info” and “Secondary CCPCH Info”. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the upink DCCH using PRACH indicated in CELL UPDATE CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_PCH state. SS waits until T305 has expired.
2	→		CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE" Cell update cause" set to "periodic cell update".
3	←		CELL UPDATE CONFIRM	Does not include IEs "PRACH Info", "Secondary CCPCH Info", "new C-RNTI" or "new U-RNTI".
4				SS verifies that no response message is received.
5	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Allocates a new C-RNTI identity to UE and set IE"DRX Indicator" to " DRX with Cell updating".
6	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE shall move to CELL_PCH state
7				SS remains idle for a period sufficient for T305 timer to expire.
8	→		CELL UPDATE	This message shall contain the new U-RNTI identity assigned in step 5.
9	←		CELL UPDATE CONFIRM	New C-RNTI and U-RNTI identities are assigned.
10	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	
11	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	SS assigns a new U-RNTI identity to the UE. At the same time, it sets IE"DRX Indicator" to "DRX with cell updating".
12	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE shall move to CELL_PCH state after sending this message.
13				SS waits for T305 to expire.
14			CELL UPDATE	
15			CELL UPDATE CONFIRM	Allocates new common physical resources by specifying IEs"PRACH Info" and "Secondary CCPCH Info".
16			PHYSICAL CHANNEL RECONFIGURATION COMPLETE	

Specific Message Contents

CELL UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Clause 8.1 of TS34.108.

~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION (Step 5 and step 11)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	Set to '0000 0000 0001'
- S-RNTI	Set to '0000 0000 0000 0000 1111'
New C-RNTI	Set to '0000 0000 0000 1111'
DRX Indicator	DRX with cell updating

CELL UPDATE (Step 8)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 9)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	Set to '0000 0000 0001'
- S-RNTI	Set to '0000 0000 0000 0000 1010'
New C-RNTI	Set to '0000 0000 0000 0101'

CELL UPDATE (Step 14)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 15)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	‘0000000000000011’B:Signature 0&1
~~- Signature~~	~~0 and 1~~
- Available SF	Refer to the parameter set for TS 34.108
- Preamble ~~S~~scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	‘000000000011’B:SubChNumber 0&1
~~- Sub-Channel number~~	~~0 and 1~~
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1’s P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
~~- Selection Indicator~~	~~Not Present~~
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

8.3.1.4.5 Test requirement

After step 2 the UE shall detect the expiry of timer T305, it shall then move to CELL_FACH state and transmits a CELL UPDATE message with the IE” Cell update cause” set to “periodic cell update”.

After step 5 the UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message. It shall subsequently move to CELL_PCH state.

After step 7 the UE shall initiate a cell updating procedure by the transmission of a CELL UPDATE message. In this message, it shall indicate the new U-RNTI value assigned in step 5 and also set IE”Cell Updating Cause” to “Periodic Cell Updating”.

After step 11 the UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message. It shall subsequently move to CELL_PCH state.

After step 13 the UE shall send a CELL UPDATE message.After step 15 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the new PRACH channel assigned by the received CELL UPDATE CONFIRM message in step 15.

8.3.1.5 Cell Update: UL data transmission in URA_PCH

8.3.1.5.1 Definition

8.3.1.5.2 Conformance requirement

This procedure is to update UTRAN with the current cell information if the UE wants to transmit UL data while in URA_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.5.3 Test purpose

To confirm that the UE executes a cell update procedure when the UE transmits UL data if the UE is in URA_PCH state. To confirm that the UE sends the correct response to CELL UPDATE CONFIRM message, after it has taken into consideration the current TFS and/or TFCS settings.

8.3.1.5.4 Method of test

Initial Condition

System Simulator: 1cell

UE: URA_PCH

Test Procedure

The UE starts from URA_PCH state, after the operator initiates an outgoing packet data transmission. The UE then moves to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH, with the IE" Cell update cause" set to value "UL data transmission". After receiving such a message, SS transmits CELL UPDATE CONFIRM message without specifying any of the following IEs: "new C-RNTI", "new U-RNTI", "PRACH Info" and "Secondary CCPCH Info". The UE shall stay in CELL_FACH state and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH. SS waits until uplink data transmission is completed and sends a ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message. The UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message. Since the IE"DRX Indicator" is set to "DRX with URA updating" in the downlink message, the UE shall move to URA_PCH state. Next SS modifies the contents of SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. See specific message contents for further details. SS then prompts the test operator to transmit packet data. The UE shall send CELL UPDATE message and specifies the cause to be "UL data transmission". SS replies with the default CELL UPDATE CONFIRM message defined in TS 34.108. After receiving this message, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and remains in CELL_FACH state. SS again waits for the transmission of user packet data to complete and then sends ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message on the downlink DCCH. The IE"DRX Indicator" is set to "DRX with URA updating". The UE shall move to URA_PCH state and acknowledges that it starts using the new RNTI identity provided. Finally, SS prompts the test operator to transmit packet data. The UE shall send CELL UPDATE message once more. After the SS receives this message, it replies with a CELL UPDATE CONFIRM message including the IEs"PRACH info","Secondary CCPCH info". The IE"DRX Indicator" is set to "No DRX" in this message. The UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink PRACH specified in the CELL UPDATE CONFIRM message. Then the UE shall enter CELL_FACH state and proceed to transmit packet data.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to URA_PCH state. SS prompts the test operator to begin a packet data transmission.
2	→		CELL UPDATE	The UE shall move to CELL FACH state with the message set to “UL data transmission” in IE” Cell update cause” .
3	←		CELL UPDATE CONFIRM	Use default message content.
4	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
5				SS waits until transmission of uplink data has been completed.
6	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	IE “DRX Indicator” set to “DRX with URA update”
7	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to URA_PCH state.
8				SS modifies MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. SS prompts test operator to initiate a packet data transmission.
9	→		CELL UPDATE	Should be same as in step 2
10	←		CELL UPDATE CONFIRM	Use default message content.
11	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
12				SS waits until transmission of uplink data has been completed.
13	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	IE “DRX Indicator” set to “DRX with URA update”
14	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to URA_PCH state.
15				SS prompts test operator to initiate a packet data transmission.
16	→		CELL UPDATE	Should be same as in step 2
17	←		CELL UPDATE CONFIRM	Including the IEs” PRACH info”,” Secondary CCPCH”
18	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	SS verifies that this message is received from PRACH physical channel using the configurations set in IE“PRACH Info” in CELL UPDATE CONFIRM message.

Specific Message Contents

CELL UPDATE (Step 2, 9 and 16)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'UL Data Transmission'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3 and 10)

Use the same message sub-type found inAnnex A.

CELL UPDATE CONFIRM (Step 17)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	'0000000000000001'B:Signature 0
~~- Signature~~	~~0~~
- Available SF	Refer to the parameter set for TS 34.108
- Preamble ~~S~~scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	'000000000001'B:SubChNumber 0
~~- Sub-Channel number~~	~~0~~
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
~~- Selection Indicator~~	~~Not Present~~
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

~~RNTI REALLOCATION~ UTRAN MOBILITY INFORMATION (Step 6)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'0000 0000 0000 1111'
DRX Indicator	DRX with URA updating

~~RNTI REALLOCATION~ UTRAN MOBILITY INFORMATION (Step 13)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'0000 0000 1111 1111'
DRX Indicator	DRX with URA updating

PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Step 4 and 18)

Only the message type IE in this message will be checked.

TRANSPORT CHANNEL RECONFIGURATION COMPLETE (Step 12)

Only the message type IE in this message will be checked.

MASTER INFORMATION BLOCK (Step 8)

Use the same message sub-type found in Clause 6.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 5 and TYPE 6 (Step 8)

Use the same message sub-type found in Clause 6.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
PRACH system information	
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport Format Information	
- Number of Transport blocks	1
- RLC Size	296 bits
- Semi-static Transport Format	
- Transmission time interval	80 msec
- Type of channel coding	No coding
- Coding Rate	No Present
- Rate matching attribute	1
- CRC Size	16 bits

8.3.1.5.5 Test requirement

After step 1 the UE shall move to CELL_FACH state to initiate a cell update procedure and transmits a CELL UPDATE message which is set to “UL data transmission” in IE” Cell update cause”.

After step 3 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 8 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE”Cell update cause” shall be set to “UL data transmission”.

After step 10 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 15 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE”Cell update cause” shall be set to “UL data transmission”.

After step 17 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using the PRACH resources assigned in CELL UPDATE CONFIRM, which is sent in step 17.

8.3.1.6 Cell Update: UL data transmission in CELL_PCH

8.3.1.6.1 Definition

8.3.1.6.2 Conformance requirement

This procedure is to update UTRAN with the current cell of the UE if the UE wants to transmit UL data when the UE is in CELL_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.6.3 Test purpose

To confirm that the UE executes a cell update procedure when the UE transmits UL data if the UE is in CELL_PCH state. To confirm that the UE sends the correct response to CELL UPDATE CONFIRM message, after it has taken into consideration the current TFS and/or TFCS settings.

8.3.1.6.4 Method of test

Initial Condition

System Simulator: 1cell

UE: CELL_PCH

Test Procedure

The UE is in the CELL_PCH state. SS asks the test operator to send some packet data. The UE moves to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH, which shall indicate “UL data transmission” in IE” Cell update cause”. After receiving such a message, SS transmits default CELL UPDATE CONFIRM message. The UE shall stay in CELL_FACH state and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH. SS waits until uplink data transmission is completed and sends a ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message. The UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message. Since the IE”DRX Indicator” is set to “DRX with cell updating” in the downlink message, the UE shall move to CELL_PCH state. Next SS modifies the contents of SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. See specific message contents for further details. SS then prompts the test operator to transmit packet data. The UE shall send CELL UPDATE message and specifies the cause to be “UL data transmission”. SS replies with a CELL UPDATE CONFIRM message which assigns a new C-RNTI to the UE. After receiving this message, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and remains in CELL_FACH state. SS again waits for the transmission of user packet data to complete and then sends ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message on the downlink DCCH. The IE”DRX Indicator” is set to “DRX with cell updating”. The UE shall move to CELL_PCH state and acknowledges that it starts using the new RNTI identity provided. Finally, SS prompts the test operator to transmit packet data. The UE shall send CELL UPDATE message once more. After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes the IEs” PRACH info” and set IE”DRX Indicator” to “No DRX”. Then the UE shall enter to the CELL_FACH state after sending PHYSICAL CHANNEL RECONFIGURATION COMPLETE message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_PCH state. SS prompts the test operator to initiate a packet data call.
2	→		CELL UPDATE	The UE moves to CELL FACH state and transmit this message which is set to “UL data transmission” in IE” Cell update cause”.
3	←		CELL UPDATE CONFIRM	Use default message content.
4	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
5				SS waits until transmission of uplink data has been completed.
6	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	IE “DRX Indicator” set to “DRX with cell update”
7	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to CELL_PCH state.
8				SS modifies MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. SS prompts test operator to initiate a packet data transmission.
9	→		CELL UPDATE	Should be same as in step 2
10	←		CELL UPDATE CONFIRM	Use default message content.
11	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	
12				SS waits until transmission of uplink data has been completed.
13	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	IE “DRX Indicator” set to “DRX with cell update”
14	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to CELL_PCH state.
15				SS prompts test operator to initiate a packet data transmission.
16	→		CELL UPDATE	Should be same as in step 2
17	←		CELL UPDATE CONFIRM	Including the IE” PRACH info” and set IE”DRX Indicator” to “No DRX”.
18	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	SS verifies that this message is received from PRACH physical channel using the configurations set in IE“PRACH Info” in CELL UPDATE CONFIRM message.

Specific Message Contents

CELL UPDATE (Step 2, 9 and 16)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'UL Data Transmission'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3 and 10)

Use the same message sub-type found in Annex A.

CELL UPDATE CONFIRM (Step 17)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	'0000000000000001'B:Signature 0
~~- Signature~~	~~0~~
- Available SF	Refer to the parameter set for TS 34.108
- Preamble ~~S~~scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	'000000000001'B:SubChNumber 0
~~- Sub-Channel number~~	~~0~~
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1's P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
~~- Selection Indicator~~	~~Not Present~~
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

~~RNTI REALLOCATION~ UTRAN MOBILITY INFORMATION (Step 6)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'0000 0000 0000 1111'
DRX Indicator	DRX with cell updating

~~RNTI REALLOCATION~ UTRAN MOBILITY INFORMATION (Step 13)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	'0000 0000 1111 1111'
DRX Indicator	DRX with cell updating

PHYSICAL CHANNEL RECONFIGURATION COMPLETE (Step 4 and 18)

Only the message type IE in this message will be checked.

TRANSPORT CHANNEL RECONFIGURATION COMPLETE (Step 12)

Only the message type IE in this message will be checked.

MASTER INFORMATION BLOCK (Step 8)

Use the same message sub-type found in Clause 6.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 5 and TYPE 6 (Step 8)

Use the same message sub-type found in Clause 6.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
PRACH system information - RACH TFS - CHOICE Transport channel type - Dynamic Transport Format Information - Number of Transport blocks - RLC Size - Semi-static Transport Format - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC Size	 Common transport channels 1 296 bits 80 msec No coding No Present 1 16 bits

8.3.1.6.5 Test requirement

After step 1 the UE shall move to CELL_FACH state, initiate a cell update procedure for the UL data transmission, and transmit a CELL UPDATE message which is set to “UL data transmission” in IE” Cell update cause”.

After step 3 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 8 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE”Cell update cause” shall be set to “UL data transmission”.

After step 10 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 15 the UE shall initiate cell update procedure and transmit CELL UPDATE message on the uplink CCCH. The IE”Cell update cause” shall be set to “UL data transmission”.

After step 17 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using the PRACH resources assigned in CELL UPDATE CONFIRM, which is sent in step 17.

8.3.1.7 Cell Update: paging response in URA_PCH

8.3.1.7.1 Definition

8.3.1.7.2 Conformance requirement

This procedure is to update UTRAN with the current cell of the UE after it receives a PAGING TYPE 1 message addressed to itself while it is in URA_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.7.3 Test purpose

To confirm that the UE executes a cell update procedure when it receives a PAGING TYPE1 message while operating in URA_PCH state. To confirm that the UE responds with an appropriate uplink message after receiving a CELL UPDATE CONFIRM message during cell updating procedure triggered by paging.

8.3.1.7.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH

Test Procedure

The UE is brought to URA_PCH state. SS transmits a PAGING TYPE 1 message to page for the UE, setting IE" paging originator" to "UTRAN Originator". The UE shall move to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH. This message shall set IE" Cell update cause" to "Paging Response". After the SS receives this message, it transmits the default CELL UPDATE CONFIRM message. The UE shall stay in CELL_FACH state and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH. SS then sends a ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message. The UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message. In this message, the IE"DRX Indicator" is set to "DRX with URA updating". As a result, the UE shall move to URA_PCH state. Next SS modifies the contents of SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. See specific message contents for further details. SS pages the UE again using the U-RNTI identity. The UE shall send CELL UPDATE message and specify the cause to be "Paging Response". SS replies with the default CELL UPDATE CONFIRM message again. After receiving this message, the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message and remains in CELL_FACH state. SS sends another ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message on the downlink DCCH, with the IE"DRX Indicator" set to "DRX with URA updating". The UE shall move to URA_PCH state and acknowledges that it starts using the new C-RNTI identity provided by transmitting ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message. SS pages the UE again using PAGING TYPE 1 message. The UE shall send CELL UPDATE message once more. SS transmits a CELL UPDATE CONFIRM message which includes the IEs"new C-RNTI", "new U-RNTI" on the downlink DCCH. The UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message. In the next sequence, SS transmits ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message and assigns a new C-RNTI identity to the UE. The UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message and move to URA_PCH state. SS then pages the UE once more using PAGING TYPE 1 message. The UE shall initial the cell update procedure by dispatching a CELL UPDATE message on the uplink CCCH. SS replies with a CELL UPDATE CONFIRM message which includes information of the PRACH channel to be used. The UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE, sent on the DCCH supported by the PRACH indicated in CELL UPDATE CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is first brought to URA_PCH state.
2	←		PAGING TYPE 1	SS transmits a PAGING TYPE1 message to the UE which includes the UE's assigned U-RNTI with the IE" paging originator" set to "UTRAN originator".
3	→		CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE" Cell update cause" set to "paging response".
4	←		CELL UPDATE CONFIRM	Use the default message from TS 34.108 Clause 8.
5	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE shall move to CELL_FACH state and transmits this message.
6				SS modifies MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 message. The TFS of the PRACH is changed.
7	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Allocates a new U-RNTI and set IE"DRX Indicator" to "DRX with URA updating".
8	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to URA_PCH state.
9	←		PAGING TYPE 1	SS pages the UE again
10	→		CELL UPDATE	IE" Cell update cause" shall be set to "paging response".
11	←		CELL UPDATE CONFIRM	Use the default message from TS 34.108 Clause 8.
12	→		TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE shall move to CELL_FACH state and transmits this message.
13	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Allocates a new U-RNTI and set IE"DRX Indicator" to "DRX with URA updating".
14	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to URA_PCH state.
15	←		PAGING TYPE 1	SS pages the UE again
16	→		CELL UPDATE	IE" Cell update cause" shall be set to "paging response".
17	←		CELL UPDATE CONFIRM	IE "new C-RNTI" is included in this message
18	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	
19	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Allocates a new C-RNTI and set IE"DRX Indicator" to "DRX
20	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to URA_PCH state.
21	←		PAGING TYPE 1	UE paged using U-RNTI identity.
22	→		CELL UPDATE	IE"Cell Update Cause" shall be set to "Paging Response"
23	←		CELL UPDATE CONFIRM	IE "PRACH Info" is included.
24	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	This message shall be sent on the PRACH resource

Specific Message Contents

PAGING TYPE 1 (Step 2, 9, 15 and 21)

Information Element	Value/remark
CHOICE Paging Originator	UTRAN Originator
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

CELL UPDATE (Step 3, 10, 16 and 22)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 4 and 11)

Use the same message sub-type found in Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 5, 18 and 24)

Only the message type for this message is checked.

MASTER INFORMATION BLOCK (Step 6)

Use the same message sub-type found in Clause 6.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 5 and TYPE 6 (Step 6)

Use the same message sub-type found in Clause 6.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
PRACH system information	
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport Format Information	
- Number of Transport blocks	1
- RLC Size	296 bits
- Semi-static Transport Format	
- Transmission time interval	80 msec
- Type of channel coding	No coding
- Coding Rate	No Present
- Rate matching attribute	1
- CRC Size	16 bits

~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION (Step 7, 13 and 19)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	Selects any arbitrary unused 16-bits string
DRX Indicator	DRX with URA updating

TRANSPORT CHANNEL RECONFIGURATION (Step 12)

Only the message type for this message is checked.

CELL UPDATE CONFIRM (Step 17)

Information Element	Value/remark
New C-RNTI	Selects any arbitrary unused 16-bits string

CELL UPDATE CONFIRM (Step 23)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	‘0000000000000010’B:Signature 1
~~- Signature~~	~~1~~
- Available SF	Refer to the parameter set for TS 34.108
- Preamble ~~S~~scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	‘000000000010’B:SubChNumber 1
~~- Sub-Channel number~~	~~1~~
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1’s P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
~~- Selection Indicator~~	~~Not Present~~
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

8.3.1.7.5 Test requirement

After step 2 the UE shall answer to the paging message then moves to CELL_FACH state and transmit a CELL UPDATE message. This message shall set the value “paging response” into IE” Cell update cause”.

After step 4 the UE shall transmit PHYSICAL CHANNEL RECONFIGURTION COMPLETE message on the uplink DCCH and enters CELL_FACH state.

After step 9 the UE shall respond the paging by replying with a CELL UPDATE message. IE”Cell Update Cause” shall be set to “Paging Response” in this message.

After step 11 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 15 the UE shall answer the PAGING TYPE 1 message by sending a CELL UPDATE message. The IE”Cell Update Cause” shall have a value equals to “Paging Response”.

After step 17 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH.

After step 21 the UE shall respond to the PAGING TYPE 1 message addressed to itself and initiate a cell update procedure. It shall transmit CELL UPDATE message with the IE”Cell Update Cause” set to “Paging Response” in this message.

After step 23 the UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using the PRACH channel indicated in CELL UPDATE CONFIRM message sent in step 23.

8.3.1.8 Cell Update: paging response in CELL_PCH

8.3.1.8.1 Definition

8.3.1.8.2 Conformance requirement

This procedure is to update UTRAN with the current cell when the UE receives a PAGING TYPE 1 message addressed to it while in CELL_PCH state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.8.3 Test purpose

To confirm that the UE executes a cell update procedure when the UE receives a PAGING TYPE1 message while in CELL_PCH state. To confirm that the UE sends an appropriate uplink message after receiving a CELL UPDATE CONFIRM message during cell updating procedure due to paging.

8.3.1.8.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH

Test Procedure

The UE is in the CELL_PCH state. The SS transmits a PAGING TYPE 1 message to the UE on the downlink PCCH which includes the connected mode identity of the UE and set value “UTRAN originator” into IE” paging originator”. The UE shall respond to this message. Then the UE shall move to CELL_FACH state and transmits a CELL UPDATE message to the SS on the uplink CCCH which and set the value “Paging Response” into IE” Cell update cause”. After the SS receives this message, it transmits the default CELL UPDATE CONFIRM message. The UE shall stay in CELL_FACH state and transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the DCCH. SS then sends a ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message. The UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message. In this message, the IE”DRX Indicator” is set to “DRX with cell updating”. As a result, the UE shall move to CELL_PCH state. SS pages the UE again using the U-RNTI identity. The UE shall send CELL UPDATE message and specify the cause to be “Paging Response”. SS replies with a CELL UPDATE CONFIRM message which comprises a new C-RNTI identity for the UE. After receiving this message, the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and remains in CELL_FACH state. Next SS modifies the contents of SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages. See specific message contents for further details. SS then sends another ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message on the downlink DCCH, with the IE”DRX Indicator” set to “DRX with cell updating”. The UE shall move to CELL_PCH state and acknowledges that it starts using the new C-RNTI identity provided by transmitting ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message. SS pages the UE again using PAGING TYPE 1 message. The UE shall send CELL UPDATE message once more. SS replies with a CELL UPDATE CONFIRM message which includes the IE”new C-RNTI” to the UE on the downlink DCCH. Then the UE shall transmit an TRANSPORT CHANNEL RECONFIGURTION COMPLETE message on the uplink DCCH and enters the CELL_FACH state. In the final sequence, SS transmits ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message and assigns a new C-RNTI identity to the UE. The UE shall reply with ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message and move to CELL_PCH state. SS then pages the UE once more using PAGING TYPE 1 message. The UE shall initial the cell update procedure by dispatching a CELL UPDATE message on the uplink CCCH. SS replies with a CELL UPDATE CONFIRM message which includes the IE”PRACH Info”. The UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE, sent on the DCCH supported by the PRACH indicated in CELL UPDATE CONFIRM message. Next, SS sends ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message to UE with the “DRX Indicator” IE set to “DRX with cell updating”. The UE shall respond by transmitting ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and then move to CELL_PCH state. SS pages the UE again using connected mode identity at the paging occasions assigned to the UE. The UE shall answer to the page and sent CELL UPDATE message on the uplink CCCH. SS responds to the reception of this message by transmitting a CELL UPDATE CONFIRM message on the downlink DCCH. In this message, a set of new PRACH resources is assigned. The UE shall acknowledge the receipt of this message and send PHYSICAL CHANNEL RECONFIGURATION COMPLETE on the uplink DCCH supported by the new PRACH channel.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_PCH state.
2		←	PAGING TYPE 1	The SS transmits a PAGING TYPE1 message addressing the UE with its connected mode identity and set IE" paging originator" to "UTRAN originator".
3		→	CELL UPDATE	The UE shall move to CELL_FACH state and transmits this message with the IE" Cell update cause" set to "paging respose".
4		←	CELL UPDATE CONFIRM	Use the default message from TS 34.108 Clause 8.
5		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	The UE shall move to CELL_FACH state and transmits this message.
6				SS modifies the contents of MASTER INFORMATION BLOCK, SYSTEM INFORMATION BLOCK TYPE 5 and 6 messages.
7		←	UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Allocates a new C-RNTI and set IE"DRX Indicator" to "DRX with cell updating"
8		→	~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to CELL_PCH state
9		←	PAGING TYPE 1	SS pages the UE again
10		→	CELL UPDATE	IE" Cell update cause" shall be set to "paging response"
11		←	CELL UPDATE CONFIRM	Contains the IE"new C-RNTI"
12		→	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	The UE shall move to CELL_FACH state and transmit this message.
13		←	UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Allocates a new C-RNTI and set IE"DRX Indicator" to "DRX with cell updating".
14		→	~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to CELL_PCH state.
15		←	PAGING TYPE 1	SS pages the UE again
16		→	CELL UPDATE	IE" Cell update cause" shall be set to "paging response".
17		←	CELL UPDATE CONFIRM	Including IE "PRACH Info" in this message.
18		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	To be sent on the new PRACH channel.
19		←	UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Allocates a new C-RNTI and set IE"DRX Indicator" to "DRX
20		→	~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	UE moves to CELL_PCH state.
21		←	PAGING TYPE 1	UE paged using U-RNTI identity.
22		→	CELL UPDATE	IE"Cell Update Cause" shall be set to "Paging Response"
23		←	CELL UPDATE CONFIRM	IE "PRACH Info" is included.
24		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	This message shall be sent on the PRACH resource

Specific Message Contents

PAGING TYPE 1

Information Element	Value/remark
CHOICE Paging Originator	UTRAN Originator
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'

CELL UPDATE (Step 3, 10 and 16)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found Annex A.

PHYSICAL CHANNEL RECONFIGURATION (Step 5 and 18)

Only the message type for this message is checked.

MASTER INFORMATION BLOCK (Step 8)

Use the same message sub-type found in Clause 6.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 5 and TYPE 6 (Step 6)

Use the same message sub-type found in Clause 6.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
PRACH system information	
- RACH TFS	
- CHOICE Transport channel type	Common transport channels
- Dynamic Transport Format Information	
- Number of Transport blocks	1
- RLC Size	296 bits
- Semi-static Transport Format	
- Transmission time interval	80 msec
- Type of channel coding	No coding
- Coding Rate	No Present
- Rate matching attribute	1
- CRC Size	16 bits

~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION (Step 7 ,13 and 19)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
New C-RNTI	Selects any arbitrary unused 16-bits string
DRX Indicator	DRX with cell updating

TRANSPORT CHANNEL RECONFIGURATION (Step 12)

Only the message type for this message is checked.

CELL UPDATE CONFIRM (Step 17)

Use the same message sub-type found in Annex A, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	‘0000000000000100’B:Signature 2
~~- Signature~~	~~2~~
- Available SF	Refer to the parameter set for TS 34.108
- Preamble ~~S~~scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	‘000000000100’B:SubChNumber 2
~~- Sub-Channel number~~	~~2~~
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1’s P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
~~- Selection Indicator~~	~~Not Present~~
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

CELL UPDATE CONFIRM (Step 23)

Use the same message sub-type found in Clause 9 of TS34.108, with the following exceptions:

Information Element	Value/remark
PRACH Info (for RACH)	
- Available Signature	‘0000000000000010’B:Signature 1
~~- Signature~~	~~1~~
- Available SF	Refer to the parameter set for TS 34.108
- Preamble ~~S~~scrambling code number	0
- Puncturing Limit	Refer to the parameter set for TS 34.108
- Available Sub-Channel number	‘000000000010’B:SubChNumber 1
~~- Sub-Channel number~~	~~1~~
Downlink DPCH info for one radio link	
- Primary CPICH Info	
- Primary Scrambling Code	Set to the scrambling code for cell 1’s P-CPICH.
- PDSCH with SHO DCH Info	Not Present.
- PDSCH code mapping	Not Present.
- Secondary CCPCH Info	
~~- Selection Indicator~~	~~Not Present~~
- Primary CPICH usage for channel estimation	TRUE
- Secondary CPICH Info	
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- Channelization code	1
- Secondary scrambling code	Not Present. Use default (Scrambling code of P-CPICH)
- STTD indicator	FALSE
- Spreading factor	256
- Code number	255
- Pilot symbol existence	TRUE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing Offset	0 chips

8.3.1.8.5 Test requirement

After step 2 the UE shall answer to the paging message, moves to CELL_FACH state, and then transmits a CELL UPDATE message setting “paging response” into IE” Cell update cause”.

After step 4 the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH and then enter CELL_FACH state.

After step 9 the UE shall respond to the paging again by sending CELL UPDATE message, with the IE”Cell update cause” set to “Paging response”.

After step 11 the UE shall transmit TRANSPORT CHANNEL RECONFIGURATION COMPLETE message to end the cell updating procedure.

After step 15 the UE shall answers the paging message by sending a CELL UPDATE message, with the IE"Cell update cause" set to "Paging response".

After step 17 the UE shall transmit PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH carried by the PRACH indicated in the CELL UPDATE CONFIRM message sent in step 17.

After step 21 the UE shall respond to the paging and initiate a cell update procedure. It shall transmit CELL UPDATE message with the IE"Cell Update Cause" set to "Paging Response" in this message.

After step 23 the UE shall send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH using the PRACH channel indicated in CELL UPDATE CONFIRM message sent in step 23.

8.3.1.9 Cell Update: re-entering of service area after T305 expiry and being out of service area

8.3.1.9.1 Definition

8.3.1.9.2 Conformance requirement

When a UE detects that it's out of service area after experiencing a T305 timer expiry, it shall try to search for a suitable cell to camp on. At the same time, it shall start timer T307. If the UE subsequently re-enters the service area of a cell before T307 expires, it shall perform a cell update procedure.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.9.3 Test purpose

To confirm that the UE performs a cell search after experiencing an "out of service area" condition following the expiry of timer T305. To confirm that the UE initiates cell updating procedure if it manages to re-enter the service area.

8.3.1.9.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active with the CPICH Ec/No set to –80dB and the $Q_{qualmin}$ value is at –90dBm. Cell 2 is inactive.

UE: CELL_FACH in cell 1

Test Procedure

The UE is in the CELL_FACH state. SS decreases the transmission power of cell 1 until the cell selection parameter S<0 (decrease transmission power of cell 1's CPICH by 15 dBm). Following the expiry of periodic cell updating timer T305 according to the system information, the UE shall detect that it is out of service area. Within the time interval equivalent to T307 timer value, the SS restores the transmission power of cell 1. The UE shall find that it is back in service area, and transmits a CELL UPDATE message to the SS on the uplink CCCH. In this message, the IE"Cell update cause" shall be set to "re-entered service area~~periodic cell update~~". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message with the IE"DRX Indicator" set "No DRX" on the downlink DCCH. The UE shall enter CELL_FACH state. Next, cell 1 is switched off. SS waits until T305 timer has expired and then turns on cell 2. The transmission level for cell 2 is such that the CPICH Ec/No value is estimated at –70dB. $Q_{qualmin}$ of cell 2 is identical to the value used previously by cell 1. The UE shall discover that cell 1 is no longer suitable for camping and initiate a cell search. It shall detect the presence of cell 2 and reselects to this cell. Following this, it shall transmit CELL UPDATE message with the cause set to "Cell Reselection". SS ends this test by sending a CELL UPDATE CONFIRM message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state of cell 1.
2				SS decreases the transmission power of cell 1 so that its S value falls below 0.
3				The UE shall detect a “out of service” condition upon expiry of timer T305 and it shall search for other cells to camp on.(T307 timer starts)
4				SS restores cell 1’s original power level before T307 timer expires.
5	→		CELL UPDATE	The value “re-entered service area~~periodic cell update~~” should be found in IE” Cell update cause” in this message
6	←		CELL UPDATE CONFIRM	”DRX Indicator” is set to “No DRX”
7				SS switches off cell 1 and wait until T305 has expired.
8				SS turns on cell 2 and set the transmission strength of such
9			CELL UPDATE	UE shall detect the presence of cell 2 and re-select to it. It shall transmit this message with cause set to “Cell
10			CELL UPDATE CONFIRM	

Specific Message Contents

CELL UPDATE (Step 5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to ‘0000 0000 0001’
- S-RNTI	Check to see if set to ‘0000 0000 0000 0000 1111’
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to ‘FALSE’
AM_RLC error indicator (for U-plane)	Check to see if set to ‘FALSE’
START List	Checked to see if the ‘CN domain identity’ and ‘START’ IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to ‘re-entered service area~~Periodic cell updating~~’
Protocol error indicator	Check to see if it is absent or set to ‘FALSE’
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 6 and 10)

Use the same message sub-type found in Clause 8.1 of TS34.108.

CELL UPDATE (Step 9)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 1111'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Cell Reselection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

8.3.1.9.5 Test requirement

After step 4 the UE shall transmit a CELL UPDATE message in which the IE" Cell update cause" is set to the value "re-entered service area~~periodic cell update~~".

After step 8 the UE shall reselect to cell 2 and then transmit a CELL UPDATE message, with the IE"Cell Update Cause" set to "Cell Reselection".

8.3.1.10 Cell Update: expiry of T307 after T305 expiry and being out of service area

8.3.1.10.1 Definition

8.3.1.10.2 Conformance requirement

This procedure is required to cater for the case of a failure to update UTRAN with the current cell, after the expiry of T307. In this case, the UE shall return to idle mode and perform cell reselection if possible.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.10.3 Test purpose

To confirm that the UE moves to idle mode after the expiry of T307, indicating that it is out of service area when attempting to perform a periodic cell updating procedure.

8.3.1.10.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH

Test Procedure

The UE is in CELL_PCH state at the start of the test. Before the expiry of periodic cell updating timer T305, SS starts to decrease the downlink transmission power such that the UE discovers that the cell is no longer suitable for camping and this results in a "out of service area" condition. The SS continues to listen to the uplink channel to detect possible attempts to perform a cell updating procedure. The UE shall not send CELL UPDATE message on the uplink DCCH, instead it triggers timer T307. After the expiry of timer T307 the UE shall enter idle state. This is confirmed by the SS, when it sends a PAGING TYPE 1 message to the UE using its U-RNTI identity, and the UE does not respond to the page. SS then attempts to page for the UE again, this time using PAGING TYPE 2 message sent on downlink DCCH. Likewise, the UE shall not respond to this page.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_PCH state.
2				SS starts to decrease the transmission power until the cell is no longer suitable for camping. The UE shall detect that it is out of service area and refrains from transmitting CELL UPDATE message due to periodic cell updating.
3				The UE detects the expiry of timer T305 and it searches for other cells to camp on. After the expiry of timer T307, the UE shall enter idle mode.
4	←		PAGING TYPE 1	SS pages the UE at its assigned paging occasion using the allocated U-RNTI value. The UE shall not respond to this page as it has already entered the idle mode.
5	←		PAGING TYPE 2	SS pages the UE on the downlink DCCH. The UE shall not respond to this page.

Specific Message Contents

Paging Type 1 (Step 4)

Information Element	Value/remark
Page record list - Paging record - CHOICE Paging originator - U-RNTI - SRNC Identity - S-RNTI BCCH Modification info	 UTRAN Originator Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 1111' Not Present.

Paging Type 2 (Step 5)

Information Element	Value/remark
Integrity check info Paging cause CN domain identity Paging Record Type Identifier	Not Present Set to a cause corresponding to one radio access bearer services supported by the UE. CS-Domain IMSI

8.3.1.10.5 Test requirement

After step 4 the UE shall remain in the idle mode and not respond to the paging message sent on PCCH.

After step 5 the UE shall remain in the idle mode and not respond to the paging message addressed to it on the DCCH.

8.3.1.11 Cell Update: Success after T302 time-out

8.3.1.11.1 Definition

8.3.1.11.2 Conformance requirement

The UE transmits a CELL UPDATE message to the UTRAN when it needs to update the UTRAN with the current cell of the UE. When the UE does not receive a CELL UPDATE CONFIRM message upon expiry of

timer T302, the UE transmits a CELL UPDATE message repeatedly until its internal counter V302 counter is greater than N302.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.11.3 Test purpose

To confirm that the UE repeats the transmission of CELL UPDATE message upon the expiry of timer T302, after failing to receive any response from the SS during T302 timer period.

8.3.1.11.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH

Test Procedure

At the start of the test, the UE is brought to CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305 according to the system information, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH. The IE" Cell update cause" in this message shall be set to "periodic cell update". SS ignores this message, and the UE shall then re-transmit a CELL UPDATE message after the expiry of timer T302. When the SS has received (N302+1) such messages, it transmits a CELL UPDATE CONFIRM message with new values for "C-RNTI" to the UE. Finally, the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				The UE starts from CELL_FACH state. SS initializes its internal counter K to 0 and wait until the expiry of T302 timer.
2		→	CELL UPDATE	The value "periodic cell update" shall be set in IE" Cell update cause" after the expiry of timer T305.
3				If K is equal to N302 then proceeds to step 5.
4				SS increments counter K, transmits no response to the UE and waits for an additional period equals to the value of timer T302. The next step is step 2.
5		←	CELL UPDATE CONFIRM	The message includes IEs" new C-RNTI". The IE"DRX Indicator" is set to "No DRX".
6		→	~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

CELL UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 5)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exception:

Information Element	Value/remark
New C-RNTI	Set to an arbitrary string different from '0000 0000 0000 0001'

8.3.1.11.5 Test requirement

After step 1 the UE shall detect the expiry of timer T305 then transmit a CELL UPDATE message on the uplink CCCH, setting "periodic cell update" into IE" Cell update cause".

After step 2 the UE shall re-transmits a CELL UPDATE message after the expiry of timer T302. A total of (N302+1) transmissions shall be detected in SS.

After step5 the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and stays at CELL_FACH state.

8.3.1.12 Cell Update: Failure (After Maximum Re-transmissions)

8.3.1.12.1 Definition

8.3.1.12.2 Conformance requirement

The UE transmits a CELL UPDATE message to the UTRAN when it needs to update UTRAN with information on the current cell of the UE. If the UE fails to receive a CELL UPDATE CONFIRM message, it re-transmits a CELL UPDATE message repeatedly upon the expiry of timer T302 until the value of V302 counter is greater than N302. If V302 is greater than N302, the UE stop the re-transmission and enters idle state.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.12.3 Test purpose

To confirm that the UE repeats the cell update procedure at the expiry of timer T302 and moves to idle state when its internal counter V302 is greater than N302.

8.3.1.12.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH

Test Procedure

The UE is initially in CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH to perform a periodic cell updating procedure. The SS ignores this message, and the UE shall attempt to re-transmit a CELL UPDATE message up to a maximum of (N302+1) times after the expiry of timer T302. After (N302+1) attempts, the UE shall return to idle state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state. SS sets its internal counter K=1 and waits for a period equals to timer value T302. If CELL UPDATE message is received upon timer expiry, proceeds to step 2. Else goes to step 5.
2		→	CELL UPDATE	The value "periodic cell update" should be set in IE" Cell update cause" and this message should be sent for each expiry of timer T302.
3				SS transmits no response to the UE and increments counter K.
4				SS waits for an additional period equals to T302 timer. If CELL UPDATE message is received, proceed to step 2. Otherwise, terminates the test. If K is not equal to N302, the test should be considered as a failure.

Specific Message Contents

CELL UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Periodic cell updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

8.3.1.12.5 Test requirement

After step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH and set value "periodic cell update" into IE" Cell update cause".

After step 4 the counter K in SS shall be equal to N302.

8.3.1.13 Cell Update: Reception of Invalid CELL UPDATE CONFIRM Message

8.3.1.13.1 Definition

8.3.1.13.2 Conformance Requirement

If the UE encounters an invalid CELL UPDATE CONFIRM message while executing a cell update procedure, it shall check the current value of its internal counter V302. If V302 is not greater than N302, the UE shall set contexts pertaining to protocol error, re-transmits CELL UPDATE message on uplink CCCH, restart T302 timer and increments V302. It shall use the same “Cell Update Cause” as before receiving the invalid downlink message. On the other hand, if V302 is greater than N302, the UE shall abandon cell update procedure and enters idle mode.

8.3.1.13.3 Test Purpose

To confirm that the UE retransmits CELL UPDATE message when it receives an erroneous CELL UPDATE message, if the number of retransmissions is not the maximum allowed value. To confirm that the UE returns to idle mode after sending maximum allowed number of CELL UPDATE messages without receiving a valid CELL UPDATE CONFIRM message.

8.3.1.13.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: CELL_PCH

Test Procedure

The UE is brought to CELL_PCH state at the beginning of the test. SS pages the UE by sending PAGING TYPE 1 message using the U-RNTI identity assigned during RRC connection establishment procedure. The UE shall start to transmit CELL UPDATE message on the uplink CCCH. Upon receiving such a message, the SS replies with a CELL UPDATE CONFIRM message containing a protocol error in IE”DRX Indicator”. The UE shall detect the protocol error and re-transmit CELL UPDATE message up to a maximum of N302 times. The time interval between the transmissions shall be approximately equal to T302. SS verifies that it receives a total of (N302+1) identical CELL UPDATE messages. The UE shall return to idle mode after all uplink transmissions have finished. SS verifies this by paging the UE using the U-RNTI identity. The UE shall not respond to this page.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	PAGING TYPE 1	The UE is in the CELL_PCH state. SS sets its internal counter K=0 and waits for a period equals to timer value T302. SS pages for the UE using the allocated connected mode identity (U-RNTI). If CELL UPDATE message is received upon timer expiry, proceeds to step 2. Else goes to step 5.
2		→	CELL UPDATE	The value "paging response" should be set in IE" Cell update cause".
3		←	CELL UPDATE CONFIRM	SS transmits an invalid message. SS increments K.
4		→	CELL UPDATE	SS waits for T302 timer to expire. The UE shall send CELL UPDATE message.
5				If a CELL UPDATE message is received in step 4, SS increments K, restart T302 timer and returns to execute step 4. Else, SS proceeds to step 6.
6				SS verifies that K = (N302+1) and proceeds to the next step. Else, the test fails.
7		←	PAGING TYPE 1	SS pages the UE.
8				UE shall not respond.

Specific Message Content

CELL UPDATE (Step 2)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exception:

Information Element	Value/remark
DRX Indicator	Use one of the spare values.

CELL UPDATE (Step 4)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is set to 'TRUE
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is set to 'Information element value not comprehended'

Paging Type 1 (Step 1 and 7)

Information Element	Value/remark
Page record list	
- Paging record	
- CHOICE Paging originator	UTRAN Originator
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0000 0000 0000 0000 0001'
BCCH Modification info	Not Present.

8.3.1.13.5 Test Requirement

After step 3 the UE shall continue to transmit CELL UPDATE message for N302 times.

At step 6 the counter K should be equal to (N302+1).

After step 7 the UE shall return to idle mode and not respond the PAGING TYPE 1 message sent by the SS.

8.3.1.14 Cell Update: Radio Bearer Control for Transition from CELL_DCH to CELL_FACH

8.3.1.14.1 Definition

8.3.1.14.2 Conformance Requirement

During a transition from CELL_DCH state to CELL_FACH state arising from the execution of radio bearer control procedure, the UE might be requested to re-select to an unknown cell. The UE shall select a cell and perform cell updating procedure. In order to distinguish the 2 cases of cell updating: (i) due to UE mobility and (ii) due to radio bearer control procedure, the update cause in CELL UPDATE message shall be different for these 2 cases. When the UTRAN receives this message, it is then able to decide whether to initiate RNC reallocation and the establishment of new configuration in the target RNC.

8.3.1.14.3 Test Purpose

To confirm that the UE perform a cell update procedure after being instructed to move from CELL_DCH to CELL_FACH state as a result of radio bearer control procedure. To confirm that the UE indicates cause "RB Control" when transmitting a CELL UPDATE message to the selected cell. To confirm that the UE transmit a compatible response to conclude the radio bearer control procedure.

8.3.1.14.4 Method of Test

Initial Condition

System Simulator: 2 cells – both cell 1 and cell 2 are active and suitable for camping, but with cell 1 having a stronger transmission power.

UE: CELL_DCH in cell 1

Test Procedure

The UE is brought to CELL_DCH state in cell 1, after the UE has successfully performed the RRC connection establishment procedure and was allocated dedicated physical resources. Next SS sends RADIO BEARER SETUP message to the UE on downlink DCCH. In this message, a DTCH channel is assigned to the UE. The UE shall reconfigure its channel resources and then return a RADIO BEARER SETUP COMPLETE message. Following this sequence, the UE sends RADIO BEARER RELEASE message to request that all radio bearers carried on dedicated physical channel to be released. However, this message does not contain information about the target cell to select when UE transits to CELL_FACH state. The UE shall perform cell reselection and it shall detect the presence of cell 2. The UE shall send a CELL UPDATE message with cause set to “RB Control” on the uplink CCCH carried by PRACH physical channel, specified in cell 2’s system information message. SS replies with CELL UPDATE CONFIRM message, specifying the IE”PRACH Info” and “Secondary CCPCH Info”. To complete this procedure, the UE shall transmit RADIO BEARER RELEASE COMPLETE message on the DCCH, which is carried on the PRACH physical channel specified in system information messages broadcasted in cell 2.

Expected Test Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state after completing a successful RRC connection establishment procedure.
2	←		RADIO BEARER SETUP	Establishes DTCH logical channel.
3	→		RADIO BEARER SETUP COMPLETE	
4	←		RADIO BEARER RELEASE	Information on target cell is not specified.
5	→		CELL UPDATE	UE shall send this message on the uplink CCCH of cell 2. IE”Cell update cause” shall be set to “RB Control”.
6	←		CELL UPDATE CONFIRM	IEs”PRACH Info” and IE”Secondary CCPCH Info” are included in this message. IE”DRX Indicator” set to “No DRX”.
7	→		RADIO BEARER RELEASE COMPLETE	Sent on the PRACH given in system information messages.

Specific Message Contents

RADIO BEARER SETUP (Step 2)

Use the same message sub-type entitled “Packet to CELL_DCH from CELL_DCH in PS” found in Clause 9 of TS34.108, with the following exceptions:

Information Element	Value/remark
RAB information to setup list	
- RAB information for setup	
- RAB Info	
- RAB Identity	4
- CN Domain Identity	PS
- Re-establishment timer	
- T315	1800 seconds
- RB Info to setup list	
- RB Info to setup	
- RB Identity	5
- PDCP Info	Not Present.
- RLC Info	Use the same RLC configuration as in TS 34.108.
- RB Mapping Info	Use the same RLC multiplexing scheme as in TS 34.108.
RB to be affected list	Not Present.
UL Transport Channel information common to all transport channels	
- TFC Subset	Not Present – use default value, all TFCs are allowed.
- PRACH TFCS	Not Present
- CHOICE Mode	FDD
- UL DCH TFCS	
- CHOICE TFCI Signalling	Normal
- TFCI Field 1 Information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10 of TS 34.108.
- CTFC Information	Refer to TS 34.108 – This IE is repeated for the maximum number TFC to be added as specified in TS 34.108 for a selected transport channel
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factors
- Gain factor β_c	0
- Gain factor β_d	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0
Deleted TrCH information list (uplink)	Not Present
- Deleted UL TrCH information	
Added or Reconfigured TrCH information list	
- Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- CHOICE Transport channel type	Dedicated transport channels
- Dynamic Transport Format Information	
- Number of Transport blocks	1
- RLC Size	128 bits
- Semi-static Transport Format	Use the same settings as in TS 34.108
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
DL Transport Channel information common to all transport channels	Not Present
Deleted TrCH information list (downlink)	Not Present
Added or Reconfigured TrCH information list	Not Present
Frequency info	Not Present – use the existing frequency information
Maximum allow UL TX power	Not Present – use the allowable UL TX power as specified by the UE's RF power class.
CHOICE Channel requirement	Not Present.
Downlink information common for all radio links	Not Present.
Downlink information per radio link list	Not Present.

RADIO BEARER SETUP COMPLETE (Step 3)

Only the message type is checked for this message.

RADIO BEARER RELEASE (Step 4)

Use the same message sub-type entitled "Packet to CELL_FACH from CELL_DCH in PS" found in Annex A, with the following exceptions:

Information Element	Value/remark

RAB information to release list	
- RB Identity	5
RB information to be affected list	
- RB information to be affected	CCCH for RRC (TM)
- RB identity	0
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- RLC logical channel mapping indicator	Not Present
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	5
- MAC logical channel priority	2
- Logical channel max loss	Not Present
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- DL Transport channel identity	Not Present
- Logical channel identity	6
- RB information to be affected	DCCH for RRC (UM)
- RB identity	1
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	Not Present – Use default
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
- RB information to be affected	DCCH for RRC (AM)
- RB identity	2
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	Not Present – Use default
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
- RB information to be affected	DCCH for NAS_DT-AM High Priority
- RB identity	3
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	Not Present – Use default
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
- RB information to be affected	DCCH for NAS_DT-AM Low Priority
- RB identity	4
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	Not Present – Use default
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
- RB information to be affected	BCCH for RRC (TM)
- RB identity	5
- RB mapping info	
- Information for each mulitplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- DL Transport channel identity	Not Present
- Logical channel identity	5
- RB information to be affected	PCCH for RRC (TM)
- RB identity	6

CELL UPDATE (Step 5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'RB Control'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 6)

Use the same message sub-type found in Annex A.

RADIO BEARER RELEASE COMPLETE (Step 7)

Only the message type is checked in this message.

8.3.1.14.5 Test Requirement

After step 4 the UE shall reselect to cell 2, perform a cell update procedure by transmitting CELL UPDATE message. In this message, the IE"Cell Update Cause" shall be set to "RB Control".

After step 6 the UE shall send RADIO BEARER RELEASE COMPLETE message on the DCCH carried by the PRACH channel. The applicable parameters of the PRACH resources are broadcasted on the system information messages of cell 2.

8.3.1.15 Cell Update: Acknowledged Mode RLC Reset

Definition

8.3.1.15.2 Conformance Requirement

In CELL_FACH, the UE shall ensure that all AM RLC entities (both signalling and u-plane links) are operational. In the event that an unrecoverable error has occurred, the UE shall trigger cell update procedure to report this event. The UE shall send CELL UPDATE message on the uplink CCCH and set the appropriate AM_RLC error indicator IE(s) to TRUE. After receiving the CELL UPDATE CONFIRM message, the UE shall reset the affected AM RLC entities and then resume transmission and reception activities.

8.3.1.15.3 Test Purpose

To confirm that the UE reports the occurrence of an unrecoverable error in a C-plane AM RLC entity by initiating cell update procedure. To confirm that the UE is able to resume normal C-plane data transmission and reception after the completion of cell update procedure.

8.3.1.15.4 Method of Test

Initial Condition

System Simulator: 1 cell

UE: Idle Mode

Test Procedure

The UE is initially in idle mode and camped onto cell 1. SS pages the UE using the IMSI identity stored in the test USIM card, stating the cause as a terminating call with one of the traffic classes supported by the UE. The UE shall respond by transmitting the RRC CONNECTION REQUEST message on the uplink

CCCH, triggering the start of RRC connection establishment procedure. SS assigns common physical resources to the UE by sending RRC CONNECTION SETUP message. The UE shall reply with RRC CONNECTION SETUP COMPLETE on the DCCH before transiting to CELL_FACH state. Next, SS sends RADIO BEARER SETUP message on the DCCH using AM mode to establish a DTCH logical channel for u-plane packet data transfer. The UE shall reply with a RADIO BEARER SETUP COMPLETE message, sent using AM RLC on the DCCH. Then it activates the associated DTCH logical channel for user data transmission and reception. SS does not acknowledge the RADIO BEARER SETUP COMPLETE message. The UE shall continue to transmit the AM PDU carrying RADIO BEARER COMPLETE message until the maximum re-transmission count is reached. Thereafter, the UE shall start sending RESET PDUs to request that the AM RLC entity for RRC signalling be re-initialized. SS ignores the requests and wait for a duration equivalent to (MAX_RST+1) times expiry of Timer_RST. This figure is specified in IE"RLC info" of RADIO BEARER SETUP message in step 6. At this point, the UE shall initiate a cell update procedure by transmitting CELL UPDATE message on the uplink CCCH. The CELL UPDATE message shall specify the value "TRUE" in IE"AM_RLC error indicator (for C-plane)". SS replies with CELL UPDATE CONFIRM message using the default message content. SS then attempts to perform a local authentication by transmitting a COUNTER CHECK message using AM RLC on DCCH. The UE shall respond by sending a COUNTER CHECK RESPONSE message on the uplink DCCH, verifying that the AM RLC entity for RRC signalling was successfully reset.

Expected Test Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is initially in idle mode.
2		←	PAGING TYPE 1	SS pages the UE, citing the cause as a terminating call with one of the supported traffic classes in the PAGING TYPE 1 message.
3		→	RRC CONNECTION REQUEST	Sent on CCCH using transparent mode.
4		←	RRC CONNECTION SETUP	Allocate common physical resources for signalling RBs.
5		→	RRC CONNECTION SETUP COMPLETE	Sent on CCCH using transparent mode.
6		←	RADIO BEARER SETUP	Establishes a DTCH logical channel operating in AM mode.
7		→	RADIO BEARER SETUP COMPLETE	UE shall stay in CELL_FACH state. SS does not acknowledge this AM PDU. The UE shall re-transmit this AM PDU until the maximum number has been reached.
8				UE shall start to transmit RESET PDU using AM RLC on the DCCH. SS does not respond to any PDU frames originating from the UE, and it waits for a period equivalent to (MAX_RST+1) times expiry of Timer_RST. This figure is specified in IE"RLC info" of RADIO BEARER SETUP message in step 6.
9		→	CELL UPDATE	UE shall send this message on CCCH. IE"AM_RLC Error Indication (for C-plane)" shall be set to 'TRUE'
10		←	CELL UPDATE CONFIRM	"DRX Indicator" set to "No DRX". UE shall transit to CELL_FACH state.
11		←	COUNTER CHECK	SS requests for a local authentication of the amount of data sent/received during the lifetime of the RRC connection.
12		→	COUNTER CHECK RESPONSE	This message shall be transmitted using AM RLC for RRC signalling on the uplink DCCH.

Specific Message Contents

PAGING TYPE 1 (Step 2)

Use the same message sub-type entitled "TM (Packet in PS)" found in Clause 9 of TS34.108.

RRC CONNECTION REQUEST (Step 3)

Information Element	Value/remark
Initial UE Identity	Check to sse if set to same value as the IMSI identity stored in the test USIM card.
Initial UE Capability	
- Maximum number of AM entities	Check to see if set to '4 to 8' or '16 to 32'.
Establishment Cause	Check to see if set to Terminating Call of a supported traffic class.
Protocol Error Indicator	Check to see if set to 'FALSE'.
Measured Results on RACH	Not checked.

RRC CONNECTION SETUP (Step 4)

Use the same message sub-type entitled "Transition to CELL_FACH" found in Clause 9 of TS34.108.

RRC CONNECTION SETUP COMPLETE (Step 5)

Only the message type IE is checked in this message.

RADIO BEARER SETUP (Step 6)

Use the same message sub-type entitled "Packet to CELL_FACH from CELL_FACH in PS" found in Clause 9 of TS34.108.

RADIO BEARER SETUP COMPLETE (Step 7)

Only the message type IE is checked for this message.

CELL UPDATE (Step 9)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'TRUE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Not checked
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 10)

Use the same message sub-type found in Clause 9 of TS34.108.

COUNTER CHECK (Step 11)

Information Element	Values/Remarks
Integrity check info	Not present
RB COUNT-C MSB Information	
- RB Identity	5
- COUNT-C-MSB-uplink	Set to an arbitrary integer equals to the 25 MSBs from COUNT-C for RB#5
- COUNT-C-MSB-downlink	Set to an arbitrary integer equals to the 25 MSBs from COUNT-C for RB#5

COUNTER CHECK RESPONSE (Step 12)

Information Element	Values/Remarks
Integrity check info	Not checked
RB COUNT-C Information	Not checked
- RB Identity	
- COUNT-C-uplink	
- COUNT-C-downlink	

8.3.1.15.5 Test Requirement

After step 8 the UE shall transmit a CELL UPDATE message on the uplink CCCH to report the occurrence of an unrecoverable error in AM RLC entity for C-plane data.

After step 11 the UE shall send a COUNTER CHECK RESPONSE message on the uplink DCCH. This message shall be sent using the AM RLC entity for RRC signalling.

8.3.1.16 Cell Update: cell reselection in CELL_FACH ~~(in non-ciphering mode)~~

8.3.1.16.1 Definition

8.3.1.16.2 Conformance requirement

This procedure is used to update UTRAN with the current cell of the UE after it has perform a cell reselection in CELL_FACH state. UE shall receive acknowledgement from UTRAN on downlink CCCH.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.16.3 Test purpose

To confirm that the UE executes a cell update procedure after the successful reselection of another UTRA cell. To confirm that the UE send the correct uplink respond message when executing cell update procedure due to cell reselection. To confirm cell update procedure completes after UE receives CELL UPDATE CONFIRM on downlink CCCH from UTRAN.

8.3.1.16.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active, Cell 2 is inactive

UE: CELL_FACH in cell 1, ciphering in both UL and DL are disabled during RRC connection establishment.

Test Procedure

The UE is in the CELL_FACH state, camping onto cell 1. The SS starts to broadcast BCCH on the primary CPICH in cell 2 with a power level greater than that in cell 1. The UE shall find cell 2 to be more suitable for service and hence perform a cell reselection. After the completion of cell reselection, the UE shall transmits a CELL UPDATE message to the SS on the uplink CCCH of cell 2 and set IE" Cell update cause" to "Cell Reselection". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message, which includes the IE"DRX Indicator" set to "DRX with Cell updating", to the UE on the downlink CCCH. SS verifies that the UE does not send any response to this message. UE shall move to CELL_PCH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_FACH state in cell 1
2		←	BCCH	The SS starts to broadcast BCCH on the primary CPICH in cell 2 with a power level that is higher than that in cell 1. The UE shall find that the cell 2 is better for service and perform a reselection. SS waits for the maximum duration required for the UE to camp to cell 2.
3		→	CELL UPDATE	Value "cell reselection" should be indicated in IE" Cell update cause"
4		←	CELL UPDATE CONFIRM	IE"DRX Indicator" is set to "DRX with cell updating". This message is sent without ciphering on downlink CCCH.
5				SS wait for T302+α. If SS receives CELL UPDATE message from the UE, this test fails.

Specific Message Contents

CELL UPDATE (Steps 3)

Use the same message sub-type found in Clause 9 of TS34.108.

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0001'
AM RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 4)

Use the same message sub-type found in Clause 9 of TS34.108, with the following exceptions:

Information Element	Value/remark
DRX Indicator	DRX with cell updating

8.3.1.16.5 Test requirement

After step 2 the UE shall reselect to cell 2 and then it shall transmit a CELL UPDATE message which, sets the value "cell reselection" in IE" Cell update cause".

After step 4 the UE shall not transmit any uplink message in response to the CELL UPDATE CONFIRM message received in step 4. Test fails if UE does.

8.3.1.17 Cell Update: Failure (UTRAN initiate an RRC connection release procedure on DCCH)

8.3.1.17.1 Definition

8.3.1.17.2 Conformance requirement

The UE transmits a CELL UPDATE message to the UTRAN when it needs to update UTRAN with information on the current cell of the UE. If the UE receives a RRC CONNECTION RELEASE message on DCCH, it shall transmit an RRC CONNECTION RELEASE COMPLETE message using AM RLC on the DCCH to the UTRAN.

Reference

3GPP TS 25.331 clause 8.3.1

8.3.1.17.3 Test purpose

To confirm that the UE moves to idle state after sending RRC CONNECTION RELEASE COMPLETE message to UTRAN upon the reception of RRC CONNECTION RELEASE message on DCCH.

8.3.1.17.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: CELL_FACH

Test Procedure

The UE is initially in CELL_FACH state. When the UE detects the expiry of periodic cell updating timer T305, the UE transmits a CELL UPDATE message to the SS on the uplink CCCH to perform a periodic cell updating procedure. The SS transmits RRC CONNECTION RELEASE message on downlink DCCH. The UE shall transmit RRC CONNECTION RELEASE COMPLETE message using AM RLC on the DCCH and return to idle mode after release of all current signalling flows and radio access bearers.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1	→		CELL UPDATE	The value "periodic cell update" should be set in IE" Cell update cause" and this message should be sent upon expiry of timer T302.
2	←		RRC CONNECTION RELEASE	SS transmits RRC CONNECTION RELEASE message to the UE.
3	→		RRC CONNECTION RELEASE COMPLETE	The UE transmits this message using acknowledged mode. The UE releases L2 signalling link and radio resources then the UE goes to idle mode.

Specific Message Contents

CELL UPDATE (Step 1)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Cell Update Cause	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'Periodic cell updating'

RRC CONNECTION RELEASE (Step 2)

Only the message type is checked for this message.

RRC CONNECTION RELEASE COMPLETE (Step 3)

Only the message type is checked for this message.

8.3.1.17.5 Test requirement

After step 1 the UE shall transmit a CELL UPDATE message on the uplink CCCH and set value "periodic cell update" into IE" Cell update cause".

After step 2 the UE shall transmit a RRC CONNECTION RELEASE COMPLETE message on the uplink DCCH and return to idle mode.

8.3.2 URA Update

8.3.2.1 URA Update: URA reselection

8.3.2.1.1 Definition

8.3.2.1.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE after a URA reselection has occurred in URA_PCH state. It may also be used for supervision of the RRC connection, even if no URA reselection takes place.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.1.3 Test purpose

To confirm that the UE executes a URA update procedure after the successful URA reselection.

8.3.2.1.4 Method of test

Initial Condition

System Simulator: 2 cells - Cell 1 is active with URA-ID 1,Cell 2 is inactive with URA-ID 2

UE: URA_PCH with URA-ID 1 in the list of URA-ID from cell 1

Test Procedure

The UE is in the URA_PCH state and assigned with only 1 URA identity in cell 1: URA-ID 1. The SS starts to broadcast BCCH in cell 2 with URA-ID 2 and stop transmitting BCCH in cell 1. This is expected to cause the UE to perform a cell reselection to cell 2. When the UE finds that URA-ID 2 is not in its current list of URA-IDs, it moves to CELL_FACH state and transmits a URA UPDATE message on the uplink CCCH. After the SS receives this message, it transmits URA UPDATE CONFIRM message which includes the IEs "DRX Indicator" and "URA-ID" to the UE on the downlink DCCH. The "DRX Indicator" is set to "DRX with URA updating". Finally, the UE returns to URA_PCH state in cell 2 without sending a uplink response message.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is updated with only 1 URA identity carried currently by cell 1. The starting state of the UE is URA_PCH
2		←	BCCH	SS starts sending BCCH for cell 2 with URA-ID 2 and ceases to transmit BCCH with URA-ID 1 carried by cell 1.
3		→	URA UPDATE	The UE shall perform a cell reselection first and then it finds that a new URA-ID 2 is not in the list of its URA-IDs stored. It shall then transmit this message and set value "URA reselection" into IE" URA update cause".
4		←	URA UPDATE CONFIRM	Message comprises IE "DRX Indicator" set "DRX with URA updating", and also IE"URA Identity" equals to "URA-ID 2".

Specific Message Contents

URA UPDATE (Step 3)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Integrity check info AM_RLC error indicator URA Update Cause Protocol error indicator Protocol error information	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Not checked Check to see if set to 'FALSE' Check to see if set to 'Change of URA' Check to see if it is absent or set to 'FALSE' Check to see if it is absent

URA UPDATE CONFIRM (Step 4)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
DRX Indicator	DRX with URA updating

8.3.2.1.5 Test requirement

After step 2 the UE shall find that URA-ID 2 is not in its maintained list of URA-IDs. After cell reselection, the UE shall move to CELL_FACH state and transmit URA UPDATE message setting value "Change of URA" into IE" URA update cause".

8.3.2.2 URA Update: periodical URA update

8.3.2.2.1 Definition

8.3.2.2.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE when the UE detects that it is still within the service area after the expiry of periodic URA updating timer T306.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.2.3 Test purpose

To confirm that the UE executes a URA update procedure after the expiry of timer T306. To verify that the UE handles an invalid URA UPDATE CONFIRM message correctly when executing the URA update procedure.

8.3.2.2.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH with URA-ID 1

Test Procedure

The UE is in the URA_PCH state with URA-ID 1. When the UE detects the expiry of timer T306, set according to the value specified in system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. The message shall indicate the cause to be "periodic URA update" in IE" URA update cause". SS replies with an illegal URA UPDATE CONFIRM message sent on downlink CCCH, and check to see if the UE handles this event properly. The UE shall attempt to retransmit the identical URA UPDATE message. After the SS receives the second URA UPDATE message, it transmits a correct URA UPDATE CONFIRM message, which includes the IE " new U-RNTI", to the UE on the downlink DCCH. Then the UE shall then transmits an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. The UE returns to CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the URA_PCH state. SS wait until T306 timer has expired.
2	→		URA UPDATE	UE shall transmit this message and set value "periodic URA update" into IE" URA update cause".
3	←		URA UPDATE CONFIRM	SS sends an illegal message.
4	→		URA UPDATE	UE shall not return to idle mode immediately, but attempts to re-transmit this message.
5	←		URA UPDATE CONFIRM	Including IEs" new C-RNTI" , and "new U-RNTI"
6	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

URA UPDATE (Step 2 and 4)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Integrity check info AM_RLC error indicator URA Update Cause Protocol error indicator Protocol error information	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Not checked Check to see if set to 'FALSE' Check to see if set to 'Periodic URA update' Check to see if it is absent or set to 'FALSE' Check to see if it is absent

URA UPDATE CONFIRM (Step 3)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
U-RNTI	Not Present

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type found in Clause 8.1 of TS34.108, with the following exceptions:

Information Element	Value/remark
New U-RNTI SRNC Identity S-RNTI	 '0000 0000 0001' '0000 0000 0000 0000 1111'

~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM (Step 6)

Only the message type IE of this message is checked.

8.3.2.2.5 Test requirement

After step 2 the UE shall detect the expiry of timer T306, move to CELL_FACH state, and transmit a URA UPDATE message which is set the value "periodic cell update" into IE" URA update cause".

After step 3 the UE shall re-transmit URA UPDATE message.

After step 5 the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH and returns to the CELL_FACH state.

8.3.2.3 URA Update: re-entering of service area after T306 expiry

8.3.2.3.1 Definition

8.3.2.3.2 Conformance requirement

This procedure is to update UTRAN with the current URA of the UE if the UE detects that it is out of service area after the expiry of timer T306, and then subsequently re-enters the service area before the expiry of T307.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.3.3 Test purpose

To confirm that the UE executes a URA update procedure when the UE re-enters the service area before the expiry of timer T307, after being out of service area at the expiry of timer T306.

8.3.2.3.4 Method of test

Initial Condition

~~System Simulator: 1 cell~~

System Simulator: 2 cells - Cell 1 is active with URA-ID 1,Cell 2 is inactive with URA-ID 2

UE: URA_PCH with URA-ID 1 in the list of URA-ID from cell 1

~~**UE: URA_PCH updated with URA-ID 1**~~

Test Procedure

The UE is initially in URA_PCH state, updated with URA-ID 1. SS decrease the transmission power of cell such that cell selection figure of merit S<0. When the UE detects the expiry of timer T306 according to the system information, the UE moves to CELL_FACH state and finds that it is out of service area. The UE is expected to search for cell to camp. Then SS increases the transmission power so that the UE detects that it returns to normal service within T307. The UE shall move to CELL_FACH state and starts transmitting a URA UPDATE message which contains the value "re-entered service area~~periodic URA update~~" in IE" URA update cause" to the SS on the uplink CCCH. After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE"new C-RNTI", and " new U-RNTI" to the UE on the downlink DCCH. Then the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. Next, cell 1 is switched off. SS waits until T305 timer has expired and then turns on cell 2. The UE shall discover that cell 1 is no longer suitable for camping and initiate a cell search. It shall detect the presence of cell 2 and reselects to this cell. . When the UE finds that URA-ID 2 is not in its current list of URA-IDs, it moves to CELL_FACH state and transmits a URA UPDATE message on the uplink CCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				The UE starts operating from URA_PCH state.
2				SS decreases the transmission power such that the cell 1 is no longer suitable for camping i.e. S<0.
3				The UE shall attempt to perform a URA update upon the expiry of timer T306. It shall discover that it is out of service and starts searching for cell to camp.(T307 timer starts)
4				SS increases the transmission power to the original level before T307 expires.
5	→		URA UPDATE	Value "re-entered service area~~periodic URA update~~" shall be set in IE" URA update cause"
6	←		URA UPDATE CONFIRM	The message includes IEs" new C-RNTI" , and "new U-RNTI"
7	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	

8			SS ceases to transmit BCCH with URA-ID 1 carried by cell 1and wait until T306 expires.
9			SS starts sending BCCH for cell 2 with URA-ID 2 and.
10	→	URA UPDATE	UE shall detect the presence of cell 2 and re-select to it. It shall transmit this message with cause set to "change of URA "

Specific Message Contents

Use the same message sub-type found in Clause ~~8.1~~9 of TS34.108, with the following exceptions:

URA UPDATE (Step 5)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI AM_RLC error indicator URA Update Cause Protocol error indicator Protocol error information	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 0000 0001' Check to see if set to 'FALSE' Check to see if set to 're-entered service area' Check to see if it is absent or set to 'FALSE' Check to see if it is absent

URA UPDATE CONFIRM (Step 6)

Information Element	Value/remark
New U-RNTI - SRNC Identity - S-RNTI New C-RNTI	 '0000 0000 0001' '0000 0000 0000 1111 1111' Arbitrary 16-bit string which is different the assigned C-RNTI in RRC CONNECTION SETUP message.

URA UPDATE (Step 10)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI AM_RLC error indicator URA Update Cause Protocol error indicator Protocol error information	 Check to see if set to '0000 0000 0001' Check to see if set to '0000 0000 0000 1111 1111' Check to see if set to 'FALSE' Check to see if set to 'Change of URA' Check to see if it is absent or set to 'FALSE' Check to see if it is absent

8.3.2.3.5 Test requirement

After step 2 the UE shall detect that it is out of service area and shall not send a URA UPDATE on the uplink CCCH channel.

After step 4 the UE shall transmit a URA UPDATE message which sets value "re-entered service area~~periodic URA update~~" into IE" URA update cause", before the expiry of timer T307.

After step 6 the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

After step 10 the UE shall transmit a URA UPDATE message which sets value "change of URA" into IE "URA update cause".

8.3.2.4 URA Update: loss of service after expiry of timers T307 and T306

8.3.2.4.1 Definition

8.3.2.4.2 Conformance requirement

This procedure is required to handle the case when the UE fails to update UTRAN with the current URA of after expiry of timers T307 and T306 consecutively. The UE shall move to idle mode subsequently.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.4.3 Test purpose

To confirm that the UE moves to idle mode after the expiry of timer T307, following an expiry of timer T306 when it discovers that it is out of service area.

8.3.2.4.4 Method of test

Initial Condition

System Simulator : 1cell

UE : URA_PCH updated with URA-ID 1

Test Procedure

The UE is in URA_PCH state with URA-ID 1. SS stops the downlink transmissions of cell 1. When the UE detects the expiry of periodic URA updating timer T306 according to the system information, the UE moves to CELL_FACH state and detects that it is out of service area. After the expiry of timer T307, the UE moves to the idle state and start to perform cell reselection.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				Initially, the UE is in the URA_PCH state.
2				SS switched off the downlink transmission of cell 1 so that the UE detects that it is out of service area.
3				Upon the expiry of timer T306, the UE shall search for cell to camp and triggers T307 timer. SS listens to the uplink CCCH to verify that CELL UPDATE message is not transmitted.
4				After the expiry of timer T307, the UE enters idle state.

Specific Message Contents

None

8.3.2.4.5 Test requirement

After step 2 the UE shall detect the expiry of timer T306, not transmit URA UPDATE message on the uplink CCCH, move to CELL_FACH state, and start timer T307.

8.3.2.5 URA Update: Success after Confirmation error of URA-ID list

8.3.2.5.1 Definition

8.3.2.5.2 Conformance requirement

~~While in connected mode, the UE keeps a temporary list of URA-IDs broadcasted in a cell. The~~ UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA of the UE. UTRAN should respond to the URA UPDATE message by sending a URA UPDATE CONFIRM message. When the indicated URA-ID in the received URA UPDATE CONFIRM message is not found in the ~~temporary~~ list of URA-IDs that is broadcasted in system information block type 2, the UE transmits a URA UPDATE message repeatedly until its internal counter V303 is greater than N303.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.5.3 Test purpose

To confirm that the UE retries to perform the URA update procedure following a confirmation error of URA-ID list.

8.3.2.5.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH updated with URA-ID 1Test Procedure

At the start of this test, the UE is brought to URA_PCH state and assigned a URA with URA-ID 1. When the UE detects the expiry of timer T306 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. The reason for performing URA updating shall be set to “periodic URA update” in IE” URA update cause”. After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE”new C-RNTI”,“ new U-RNTI” and “URA-ID 2” to the UE on the downlink DCCH. The UE finds that the indicated URA-ID is not included in the ~~temporary~~ list of URA-IDs broadcasted in system information block type 2~~stored~~, then the UE shall retry to transmit a URA UPDATE message for a confirmation error of URA-ID list. SS continue to send the same URA UPDATE CONFIRM message until N303 URA UPDATE messages have been received. Then SS transmits a URA UPDATE CONFIRM message to the UE which includes IE”URA Identity” set to ” URA-ID 1”. The UE shall find this URA-ID in its URA-ID list and transmits an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is URA_PCH state. SS initializes counter K to 0
2	→		URA UPDATE	This message shall contain value “periodic URA update” set in IE” URA update cause” after expiry of timer T306.
3				SS increments K by 1.
4	←		URA UPDATE CONFIRM	SS transmits this message, setting the value “URA-ID 2” to IE”URA Identity”. If K is not greater than N303, SS waits for T303 to expires and then returns to step 2. If K is greater than N303, SS proceeds to step 5.
5	←		URA UPDATE CONFIRM	SS transmits this message, setting IE”URA Identity” to “URA-ID 1”. This message also comprises IE “New U-RNTI”.
6	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

URA UPDATE (Step 2)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI Integrity check info AM_RLC error indicator URA Update Cause Protocol error indicator Protocol error information	 Check to see if set to ‘0000 0000 0001’ Check to see if set to ‘0000 0000 0000 0000 0001’ Not checked Check to see if set to ‘FALSE’ Check to see if set to ‘Periodic URA update’ Check to see if it is absent or set to ‘FALSE’ Check to see if it is absent

URA UPDATE CONFIRM (Step 4)

Use the same message sub-type as specified in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
DRX Indicator URA Identity	DRX with Cell updating 2

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as specified in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
New U-RNTI SRNC Identity S-RNTI URA Identity	 ‘0000 0000 0001’ ‘0000 0000 0000 0101 0101’ 1

~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM (Step 6)

Only the message type IE in this message is checked.

8.3.2.5.5 Test requirement

After step 1 the UE shall detect the expiry of timer T306, move to CELL_FACH state, transmit a URA UPDATE message on the uplink CCCH and set value “periodic URA update” into IE” URA update cause”.

After step 2 the UE shall repeatedly re-transmit a URA UPDATE message after it detects a confirmation error of URA-ID list for the URA-ID indicated in the URA UPDATE CONFIRM message. A total of (N303+1) URA UPDATE messages shall be received by the SS.

After step 5 the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

8.3.2.6 URA Update: Failure (V303 is greater than N303 : Confirmation error of URA-ID list)

8.3.2.6.1 Definition

8.3.2.6.2 Conformance requirement

~~While in connected mode, the UE keeps a temporary list of all URA-IDs broadcasted in a cell. It~~ UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA of the UE. When the indicated URA-ID in the received URA UPDATE CONFIRM message is not in the list of URA-IDs that is broadcasted in system information block type 2, the UE transmits URA UPDATE messages repeatedly until its internal counter V303 is greater than N303. If V303 is greater than N303 then the UE enters idle state.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.6.3 Test purpose

To confirm that the UE make repeated attempts to perform the URA update procedure following a detection of a confirmation error of URA-ID list. It then moves to idle state when internal counter V303 is greater than N303.

8.3.2.6.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH updated with URA-ID 1

Test Procedure

The UE is originally in the URA_PCH state updated with URA-ID 1. When the UE detects the expiry of timer T306 according to the system information, the UE shall move to CELL_FACH state and transmit a URA UPDATE message to the SS on the uplink CCCH. In this message, the value “periodic URA update” shall be set in IE” URA update cause”. After the SS receives this message, it transmits a URA UPDATE CONFIRM message which includes the IE”new C-RNTI”,“ new U-RNTI” and indicating the IE”URA Identity” to be “URA-ID 2” to the UE on the downlink DCCH. The UE finds that the indicated URA-ID is not included in the list of URA-IDs broadcasted, the UE shall retry to transmit a URA UPDATE message for N303 times. After that, the UE shall enter idle state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in URA_PCH state at the start of the test. SS sets internal counter K to 1.
2	→		URA UPDATE	The message shall indicate "periodic URA update" in IE" URA update cause". This message is sent following the expiry of timer T306. SS increments counter K by 1.
3	←		URA UPDATE CONFIRM	The SS transmit this message and set IE"URA Identity" to "URA-ID 2" . When K greater than N303 proceeds to step 4, else SS waits for T303 to expires and executes step 2.
4				SS waits for a T306 to verify that no further URA UPDATE messages are transmitted by UE. The counter K shall be equal to (N303+1). The UE shall enter idle state.

Specific Message Contents

URA UPDATE CONFIRM (Step 4)

Use the same message sub-type defined in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
URA Identity	2

8.3.2.6.5 Test requirement

After step 1 the UE shall detect the expiry of timer T306, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH, setting value "periodic URA update" into IE" URA update cause".

After step 2 the UE shall retry to transmit a URA UPDATE message after it detects the confirmation error of URA-ID list for the URA-ID included in the URA UPDATE CONFIRM message.

After step 3 the UE shall stop transmitting URA UPDATE message and then enters idle state. The counter K shall be equal to (N303+1).

8.3.2.7 URA Update: Success after T303 timeout

8.3.2.7.1 Definition

8.3.2.7.2 Conformance requirement

The UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with the current URA identity stored the UE. When the UE fails to receive any URA UPDATE CONFIRM message after T303 timer expiry, it transmits a URA UPDATE message repeatedly at an interval of T303 timer value until its internal counter V303 is greater than N303.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.7.3 Test purpose

To confirm that the UE attempts to repeat the URA update procedure upon the expiry of timer T303. To confirm that a maximum of N303 re-transmission is performed.

8.3.2.7.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : URA_PCH

Test Procedure

The UE is in the URA_PCH. When the UE detects the expiry of timer T306 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH, setting value “periodic URA update” into IE” URA update cause”. The SS ignores this message, the UE shall then retry to transmit a URA UPDATE message after the expiry of timer T303. SS continues to ignore further URA UPDATE message until it receives (N303+1) such message. Then it transmits a URA UPDATE CONFIRM message to the UE which includes IEs”new C-RNTI”,” new U-RNTI”. The UE shall then transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

Expected sequence

Step	Direction		Message	Comment
	UE	**SS**		
1				The UE is in URA_PCH state at the beginning of test. SS sets counter K to 1. SS waits for T306 to expire.
2	→		URA UPDATE	This message shall contain value “periodic URA update” in IE” URA update cause” sent upon the expiry of timer T306.
3				SS increments K by 1.
4				If K is not greater than N303, SS transmits no response to the UE, waits for an additional period equals to T303 timer and returns to step 2. Else, SS executes step 5.
5	←		URA UPDATE CONFIRM	This message includes IEs” new C-RNTI” , “new U-RNTI”
6	→		~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	

Specific Message Contents

URA UPDATE CONFIRM (Step 5)

Use the same message sub-type as in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
SRNC Identity	'0000 0000 0001'
S-RNTI	Arbitrary 20-bit string which is different from S-RNTI field in IE"U-RNTI"
New C-RNTI	Arbitrary 16-bit string which is different the assigned C-RNTI in RRC CONNECTION SETUP message.

8.3.2.7.5 Test requirement

After step 1 the UE shall detect the expiry of timer T306, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH. The updating cause shall be set to "periodic URA update" in IE" URA update cause".

After step 2 the UE shall retry to transmit a URA UPDATE message at each expiry of timer T303. UE shall attempt to re-transmit N303 URA UPDATE messages.

After step 5 the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH.

8.3.2.8 URA Update: Failure (V303 is greater than N303:T303 timeout)

8.3.2.8.1 Definition

8.3.2.8.2 Conformance requirement

The UE transmits a ~~-~~URA UPDATE message to the UTRAN when it needs to update the UTRAN with the current URA of the UE. When the UE fails to receive the URA UPDATE CONFIRM message~~-~~, the UE transmits a URA UPDATE message repeatedly after every expiry of T303 until its internal counter V303 is greater than N303. If V303 is greater than N303, UE stops sending URA UPDATE message and then enters idle state.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.8.3 Test purpose

To confirm that the UE retries to perform the URA update procedure upon expiry of timer T303 and moves to idle state after retrying for N303 times.

8.3.2.8.4 Method of test

Initial Condition

System Simulator : 1 cell

UE : URA_PCH

Test Procedure

The UE is in the URA_PCH state. When the UE detects the expiry of timer T306 according to the system information, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. This message shall contain value "periodic URA update" in IE" URA update cause". SS ignores this message, the UE shall continue to transmit URA UPDATE messages for N303 times after the expiry of timer T303. After N303 re-transmissions, the UE shall enter idle state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in URA_PCH state and SS sets counter K=0. SS wait until T303 expires.
2		→	URA UPDATE	The value "periodic URA update" shall be set in IE" URA update cause".
3				SS ignores the message, waits for T303 timer to expire and increments K by 1. If a message is received after T303 expiry, return to step 2. Else, go to step 4.
4				SS checks that K is equal to (N303+1).
5				The UE shall enter idle state.

Specific Message Contents

None

8.3.2.8.5 Test requirement

After step 1 the UE shall detect the expiry of timer T306, then it shall move to CELL_FACH state and transmit a URA UPDATE message on the uplink CCCH, setting "periodic URA update" into IE" URA update cause".

After step 2 the UE shall retry to transmit a URA UPDATE message after the expiry of timer T303. SS shall receive (N303+1) CELL UPDATE message. After this, the UE shall enter idle state.

8.3.2.9 URA Update: Failure (UTRAN initiate an RRC connection release procedure on DCCH)

8.3.2.9.1 Definition

8.3.2.9.2 Conformance requirement

The UE transmits a URA UPDATE message to the UTRAN when it needs to update UTRAN with information on the current URA of the UE. If the UE receives a RRC CONNECTION RELEASE message on downlink DCCH, it shall enter idle state after sending a RRC CONNECTION RELEASE COMPLETE message to UTRAN.

Reference

3GPP TS 25.331 clause 8.3.2

8.3.2.9.3 Test purpose

To confirm that the UE moves to idle state after sending RRC CONNECTION RELEASE COMPLETE message to UTRAN upon the reception of RRC CONNECTION RELEASE message on downlink DCCH.

8.3.2.9.4 Method of test

Initial Condition

System Simulator: 1 cell

UE: URA_PCH

Test Procedure

The UE is in the URA_PCH state. When the UE detects the expiry of periodic URA updating timer T306, the UE moves to CELL_FACH state and transmits a URA UPDATE message to the SS on the uplink CCCH. The message shall indicate the cause to be “periodic URA update” in IE” URA update cause”. The SS transmits RRC CONNECTION RELEASE message on downlink DCCH. The UE shall transmit RRC CONNECTION RELEASE COMPLETE message using AM RLC on the DCCH and return to idle mode after release of all current signalling flows and radio access bearers.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the URA_PCH state. SS wait until T306 timer has expired.
2	→		URA UPDATE	UE shall transmit this message and set value “periodic URA update” into IE” URA update cause”.
3	←		RRC CONNECTION RELEASE	SS transmits RRC CONNECTION RELEASE message to the UE on the downlink CCCH.
4	→		RRC CONNECTION RELEASE COMPLETE	The UE transmits this message using acknowledged mode. The UE releases L2 signalling link and radio resources then the UE goes to idle mode.

Specific Message Contents

URA UPDATE (Step 2)

Information Element	Value/remark
U-RNTI - SRNC Identity - S-RNTI URA Update Cause	 Check to see if set to ‘0000 0000 0001’ Check to see if set to ‘0000 0000 0000 0000 0001’ Check to see if set to ‘Periodic URA update’

RRC CONNECTION RELEASE (Step 3)

Only the message type is checked for this message.

RRC CONNECTION RELEASE COMPLETE (Step 4)

Only the message type is checked for this message.

8.3.2.9.5 Test requirement

After step 1 the UE shall transmit a URA UPDATE message on the uplink CCCH and set value “periodic URA update” into IE” Cell update cause”.

After step 3 the UE shall transmit a RRC CONNECTION RELEASE COMPLETE message on the uplink DCCH and return to idle mode.

8.3.3. ~~RNTI reallocation~~UTRAN Mobility Information

8.3.3.1 UTRAN Mobility Information~~RNTI reallocation~~: Success

8.3.3.1.1 Definition

8.3.3.1.2 Conformance requirement

This procedure is used by the network to assign a new RNTI identity to the UE. It is initiated by the UTRAN when it sends an ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message, which includes a new C-RNTI and/or U-RNTI on the downlink DCCH. The UE starts to use the new identities and transmits an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message to the UTRAN on the uplink DCCH.

Reference

3GPP TS 25.331 clause 8.3.3

8.3.3.1.3 Test purpose

To confirm that the UE starts to use the new identities after it receives an ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message from the SS. To confirm that the UE use the new U-RNTI identity to calculate the applicable paging occasions.

[Editor's note] In this test case, it is assumed that the paging occasion during connected states is determined using U-RNTI. From TS 25.304 Clause 8, this assumption cannot be confirmed. Further clarification is required regarding this issue.

8.3.3.1.4 Method of test

Initial Condition

System Simulator : 1cell

UE : CELL_FACH

Test Procedure

Initially, the UE is in the CELL_FACH state and it has been assigned a C-RNTI and U-RNTI. The SS transmits an ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message which includes new C-RNTI and U-RNTI to the UE. Then the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message as confirmation and transits to CELL_PCH state. SS pages the UE by sending a PAGING TYPE 1 message and specifying the newly assigned U-RNTI identity in this messageThe UE shall transmit a CELL UPDATE message to the SS on the uplink CCCH which includes the U-RNTI identical to that found in ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message received in step 2. The CELL UPDATE message shall also contain IE "Cell update cause" with this IE set to "paging response". After the SS receives this message, it transmits a CELL UPDATE CONFIRM message which includes IE"DRX Indicator" set to value "No DRX" to the UE on the downlink DCCH. The UE shall return to CELL_FACH state.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of the UE is CELL_FACH state. UE has been allocated both C-RNTI and U-RNTI during RRC connection establishment phase.
2		←	UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Contains new C-RNTI and U-RNTI identities.
3		→	~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM	
4		←	PAGING TYPE 1	SS pages the UE using the new U-RNTI allocated in step 2.
5		→	CELL UPDATE	UE shall trigger cell updating. The message shall indicate the same U-RNTI assigned in the ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message in step 2.
6		←	CELL UPDATE CONFIRM	IE"DRX indicator" is set to "No DRX".

Specific Message Content

~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION (Step 2)

Use the same message sub-type as in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
New U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0101 0101 0101 0101 0101'
New C-RNTI	'1010 1010 1010 1010'
DRX Indicator	DRX with cell updating

~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM (Step 3)

Only the message type IE is checked in this message.

PAGING TYPE 1 (Step 4)

Use the same message sub-type as in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
Page Record List	
- Paging record	
- CHOICE Paging orginator	UTRAN originator
- U-RNTI	
- SRNC Identity	'0000 0000 0001'
- S-RNTI	'0101 0101 0101 0101 0101'
BCCH modification info	Not Present

CELL UPDATE (Step 5)

Information Element	Value/remark
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0001'
- S-RNTI	Check to see if set to '0101 0101 0101 0101 0101'
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell Update Cause	Check to see if set to 'Paging Response'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 6)

Use the same message sub-type as in TS 34.108 Clause 8.

8.3.3.1.5 Test requirement

After step 2 the UE shall transmit an ~~RNTI REALLOCATION COMPLETE~~UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH. The MAC PDU carrying this message shall comprise either the new C-RNTI or U-RNTI allocated in the "UE-id" field of the MAC header.

After step 4 the UE shall transmit a CELL UPDATE message on the uplink CCCH with IE" Cell update cause" set to "paging response". The IE"U-RNTI" shall be identical to the IE"New RNTI" found in ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message sent by the SS in step 2.

8.3.3.2 UTRAN Mobility Information I~~RNTI reallocation~~: Failure (Invalid message reception)

8.3.3.2.1 Definition

8.3.3.2.2 Conformance Requirements

When the UE receives an ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message, which contains an error in one of the mandatory IE, it shall transmit a UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~ FAILURE message on the DCCH using AM RLC and set the value "protocol error" in the IE"failure cause". The IE"protocol error information" in this message shall also be set to an appropriate value. The UE shall not utilize any identities relayed in the erroneous message, and it shall resume normal operations.

8.3.3.2.3 Test Purpose

To confirm that the UE ignore the new connected mode identities conveyed in an erroneous ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message. To confirm that the UE report this event to the UTRAN by sending RNTI REALLOCATION FAILURE message, stating the appropriate failure cause and information.

8.3.3.2.4 Method of test

Initial Conditions

System Simulator : 1 cell

UE : CELL_FACH

Test Procedure

The UE is brought to CELL_FACH state. SS transmits a ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message to the UE on the DCCH using UM-RLC mode. In this message, the IE"DRx Indicator" is set to one of the spare values. A new U-RNTI identity is also present in this message. The UE shall respond by transmitting the ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION FAILURE

message, indicating “protocol error” in IE”failure cause” and also “Information element not comprehended” in IE”Protocol error information”. After receiving the UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~ FAILURE message, SS waits for a duration to allow T305 to expire. The UE shall transmit CELL UDPATE message with the original U-RNTI identity assigned. SS complete this test by sending CELL UPDATE CONFIRM message to the UE on the downlink DCCH.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The initial state of the UE is CELL_FACH state.
2	←		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~	Contains a new U-RNTI identity, but a spare value is used in the IE”DRx indicator”
3	→		UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~ FAILURE	UE shall transmit this message to report the error in ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message. It shall include the appropriate cause in the message.
4				SS waits for a period up to timer T305 to allow the UE to start performing a cell updating procedure.
5	→		CELL UPDATE	UE shall trigger periodic cell updating. The message shall not contain the U-RNTI given in the ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message in step 2.
6	←		CELL UPDATE CONFIRM	

Specific Message Content

~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION (Step 2)

Use the same message sub-type as in TS 34.108 Clause 8, with the following exceptions:

Information Element	Value/remark
New U-RNTI - SRNC Identity - S-RNTI DRX Indicator	 0000 0000 0001B 0000 0000 0000 0000 00011B Set to one of the spare value

UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~ FAILURE (Step 3)

Information Element	Value/remark
Failure Cause Protocol Error Information	Check to see if set to ‘Protocol error’ Check to see if set to ‘Information Element not comprehended’

CELL UPDATE (Step 5)

Information Element	Value/remark
U-RNTI	Shall be the same as the original U-RNTI allocated
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'B
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'B
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell update cause	Check to see if set to 'Periodic Cell Updating'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM (Step 6)

Use the same message sub-type as in TS 34.108 Clause 8

8.3.3.2.5 Test Requirement

After step 2 the UE shall transmit UTRAN MOBILITY INFORMATION~~RNTI REALLOCATION~~ FAILURE message, indicating the value "protocol error" in IE"failure cause" and also "information element not comprehended" in IE"protocol error information".

After step 4 the UE shall initiate a periodic cell updating procedure by transmitting CELL UPDATE message on the CCCH. In this message, the U-RNTI identity shall be set to the same value as assigned during the RRC connection establishment procedure.

8.3.4 Active set update in soft handover

8.3.4.1 Active set update in soft handover: Radio Link addition

8.3.4.1.1 Definition

8.3.4.1.2 Conformance requirement

Radio link addition is triggered in the network's RRC layer. The RRC entity in the network first configures the new radio link. Transmission and reception then begin immediately. This procedure is to update the active set of the connection between the UE and UTRAN. The UTRAN then transmits an ACTIVE SET UPDATE message to the UE. The UE configures layer 1 to begin reception for the additional radio link. After the UE receives confirmation from the physical layer in the UE, an ACTIVE SET UPDATE COMPLETE message is sent to the UTRAN.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.1.3 Test purpose

To confirm that the UE continues to communicate with the SS on both the additional radio link and an already existing radio link after the radio link addition.

8.3.4.1.4 Method of test

Initial Condition

System Simulator : 2cells - Cell 1 is active ,Cell 2 is active

UE : CELL_DCH in cell 1

Test Procedure

Initially, the UE establishes a radio access bearer in the CELL_DCH state in cell 1. The SS begins to configure the new radio link to be added from cell 2. Then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes the IE" Radio Link Addition Information".(e.g.Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID). When the UE receives this message, the UE shall configure layer 1 to begin reception without affecting the current uplink and downlink activities of existing radio links. After the UE confirms the synchronization with the new radio link from cell 2, the UE shall transmit an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. The UE continues to communicate with the SS on the both radio links. To test this condition, SS ceases the operations of all uplink and downlink DPCH from cell 1. SS shall observe that the data communication for both DCCH and DTCH channels continue as per normal using cell 2, as if cell 1 is still operational.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is brought to CELL_DCH state in cell 1, after the successful establishment of a radio access bearer service.
2				The SS configures an additional radio link in the downlink direction from cell 2.
3	←		ACTIVE SET UPDATE	SS transmits this massage in cell 1 on downlink DCCH using AM RLC. The message includes IE" Radio Link Addition Information". (e.g.Downlink DPCH information and other optional parameters relevant for the additional radio links with Primary CPICH info used for the reference ID in cell 2)
4	→		ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link to cell 2, without interfering with existing connections on the radio link in cell 1. SS ceases all Tx and Rx activities in cell 1. But it shall be able to communicate with UE through cell 2.

Specific Message Content

ACTIVE SET UPDATE

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 2
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- CHOICE Spreading factor	512
- Code Number	For each DPCH, assign the same code number in the current code given in cell 1.
- Scrambling code change	Not Present
- TPC Combination Index	Not Present
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present
~~- Secondary CCPCH Info~~	~~Not Present~~
~~- TFCS~~	~~Not Present~~
~~- FACH/PCH Information~~	~~Not Present~~
~~- Reference to other system information blocks~~	~~Not Present~~
Radio link removal information	Not Present

8.3.4.1.5 Test requirement

After step 3 the UE shall configures a new radio link to cell.2, with the connection on the old radio link in cell 1 remaining operational and unaffected. It shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC to acknowledge the completion of the active set additional procedure.

After step 4 the SS shall continue to communicate with the UE using the radio links added to the UE from cell 2.

8.3.4.2 Active set update in soft handover : Radio Link removal

8.3.4.2.1 Definition

8.3.4.2.2 Conformance requirement

This procedure is to update the active set of the connection between the UE and the UTRAN after the UTRAN has commanded a removal of a radio link from the current active set. The UTRAN RRC transmits an ACTIVE SET UPDATE message to the UE RRC. The UE RRC requests UE L1 to terminate transmission and reception of the radio link to be removed. The UE shall continue to communicate normally with the UTRAN using the new active set, without losing the connection link. After this the UE acknowledges the radio link removal by sending an ACTIVE SET UPDATE COMPLETE message to the UTRAN on DCCH using AM RLC.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.2.3 Test purpose

To confirm that the UE continues to communicate with the SS on the remaining radio link after radio link removal on the active set.

8.3.4.2.4 Method of test

Initial Condition

System Simulator : 2cells - both Cell 1 and Cell 2 are active

UE : CELL_DCH in cell 1

Test Procedure

At the start of the test, the UE establishes a radio access bearer service in the CELL_DCH state in cell 1. This is followed by a radio link addition procedure in cell 2. SS then transmits an ACTIVE SET UPDATE message, which includes IE" Radio Link Removal Information" and specifying the P-CPICH information of the cell to be removed. When the UE receives this message, the UE RRC entity shall request UE L1 entity to terminate transmission and reception of the radio link from cell 1. Then the UE transmits an ACTIVE SET UPDATE COMPLETE message to the SS on the uplink DCCH using AM RLC. The UE shall continue to communicate with the SS on the remained radio link in cell 2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL DCH state in cell 1. SS executes test 8. 3.4.1, and the UE shall update the active set to contain cell 1 and cell 2 after the radio link addition procedure.
2	←		ACTIVE SET UPDATE	The SS transmits this massage on downlink DCCH using AM RLC which includes IE" Radio Link Removal Information".
3	→		ACTIVE SET UPDATE COMPLETE	The UE shall remove the radio link associated with cell 1.
4				The SS stops transmission on

Specific Message Contents

ACTIVE SET UPDATE

The message to be used in this test is the same as the message sub-type found in TS 34.108 clause 8, with the following exceptions:

Information Element	Value/remark
Radio link addition information Radio link removal information - Primary CPICH info - Primary scrambling code	Not Present 1 radio link to be removed Set to the same P-CPICH scrambling code assigned for cell 1

8.3.4.2.5 Test requirement

After step 2 the UE shall remove the radio link from cell 1 and it shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC.

After step 3 the UE shall continue to communicate on the remaining radio link from cell 2.

8.3.4.3 Active set update in soft handover: Combined radio link addition and removal (active set is not full)

8.3.4.3.1 Definition

8.3.4.3.2 Conformance requirement

When radio links are to be replaced, the UTRAN RRC first configures the UTRAN L1 to activate the radio link(s) that are being added. The UTRAN RRC then transmits an ACTIVE SET UPDATE message to the UE RRC, which shall configure the UE L1 to terminate transmission and reception on the removed radio link(s) and begin transmission and reception on the added radio link(s). At the completion of the reconfiguration of radio links, the UE shall acknowledge the replacement with an ACTIVE SET UPDATE COMPLETE message.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.3.3 Test purpose

To confirm that the UE continues to communicate with the SS on the added radio link and removes radio link which exists prior to the execution of active set update procedure.

8.3.4.3.4 Method of test

Initial Condition

System Simulator : 2cells- Both Cell 1 and Cell 2 are active

UE :CELL_DCH in cell 1 [Active set is not full.]

Test Procedure

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. SS begin to configure the new radio link in cell 2. Then the SS transmits to the UE an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC. The message includes IE" Radio Link Addition Information". and IE" Radio Link Removal Information", indicating the removal of cell 1 and addition of cell 2 into the active set. When the UE receives this message, the UE RRC shall terminate the transmission and reception of the removed radio link in cell 1 and then configures layer 1 to begin transmission and reception in cell 2. After the UE received confirmations from the physical layer regarding the update of active set, it transmits an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH to the SS. The UE shall continue to communicate with the SS on the added radio link in cell 2. When SS receives ACTIVE SET UPDATE COMPLETE message, it verifies that the UE has ceased any uplink transmission in cell 1.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state in cell 1
2				The SS configures an additional radio link in cell 2, starting the transmission and reception of data in cell 2. Clause
3	←		ACTIVE SET UPDATE	The SS transmit this message on downlink DCCH using AM RLC which includes IE" Radio Link Addition Information" for cell 2 and IE" Radio Link Removal Information" for cell 1.
4	→		ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link in cell 2 and removes the old radio link in cell 1.
5				The SS removes the radio link from cell 1 and the UE shall continue to communicate on the added radio link in cell 2, and not transmit any data in cell 1.

Specific Message Content

ACTIVE SET UPDATE

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 2
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- CHOICE Spreading factor	512
- Code Number	For each DPCH, assign the same code number in the current code given in cell 2.
- Scrambling code change	Not Present
- TPC Combination Index	Not Present
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present
~~- Secondary CCPCH Info~~	~~Not Present~~
~~- TFCS~~	~~Not Present~~
~~- FACH/PCH Information~~	~~Not Present~~
~~- Reference to other system information blocks~~	~~Not Present~~
Radio link removal information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code assigned as for cell 1

8.3.4.3.5 Test requirement

After step 3 the UE shall remove the radio link in cell 1 and add the radio link in cell 2. Then the UE shall transmit an ACTIVE SET UPDATE COMPLETE message the uplink DCCH.

After step 4 the UE shall continue to communicate on the added radio link in cell 2. SS monitors the uplink direction to confirm that no data are designated for reception in cell 1.

8.3.4.4 Active set update in soft handover: Unsupported Configuration in the UE

8.3.4.4.1 Definition

8.3.4.4.2 Conformance requirement

If the UTRAN attempts to remove a radio link that is not currently present in the UE's active set, the UE transmits an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC and maintain its current communication status with the radio links.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.4.3 Test purpose

To confirm that the UE transmits an ACTIVE SET UPDATE FAILURE message on the DCCH using AM RLC, following the reception of a message specifying the removal of a radio link unknown to the UE.

8.3.4.4.4 Method of test

Initial Condition

System Simulator : 2cells - Cell 1 is active, Cell 2 is active.

UE :CELL_DCH in cell 1.

Test Procedure

The UE establishes a radio access bearer in the CELL_DCH state in cell 1. SS requests for a radio link addition by executing the steps described in test case 8.3.4.1. The UE shall then include cell 2 into its active set and establish the transmission and reception capabilities related to cell 2. SS then transmits an ACTIVE SET UPDATE message in cell 1 on DCCH using AM RLC which includes IE" Radio Link Removal Information" This IE indicates that a cell with unknown P-CPICH scrambling code be removed from the active set. When the UE receives this message, it transmits an ACTIVE SET UPDATE FAILURE message which is set to "configuration unacceptable" in IE" failure cause" on the uplink DCCH using AM RLC to the SS, and continues to communicate on the existing radio links in cell 1 and cell 2.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state in cell 1.
2				SS commands the UE to perform a radio link addition procedure by executing the steps in test case 8.3.4.1. The UE shall respond accordingly. Both cell 1 and cell 2 should be found in the active set maintained by the UE.
3	←		ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes IE" Radio Link Removal Information". This content of this IE indicates an unknown cell.
4	→		ACTIVE SET UPDATE FAILURE	The message shall state "configuration unacceptable" in IE"failure cause". UE shall continue to communicate normally with both cells

Specific Message Contents

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information Radio link removal information - Primary CPICH info - Primary scrambling code	Not Present 1 radio link to be removed Set to an unknown scrambling code not assigned to any cells.

ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark
Integrity check info Failure cause	Not Checked Check to see if it's set to 'configuration unacceptable'

8.3.4.4.5 Test requirement

After step 3 the UE shall transmit an ACTIVE SET UPDATE FAILURE message, setting "configuration unacceptable" in IE" failure cause" and sent on the uplink DCCH using AM RLC.

After step 4 the UE shall continue to communicate on the radio links for both cell 1 and cell 2.

8.3.4.5 Active set update in soft handover: Combined radio link addition and removal (active set is full)

8.3.4.5.1 Definition

8.3.4.5.2 Conformance requirement

When the UE active set is full, the UE shall first remove the old radio link and then add the new radio link, after it receives an ACTIVE SET UPDATE message for the combined radio link addition and removal.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.5.3 Test purpose

To confirm that the UE removes one of existing radio links, which is indicated in an ACTIVE SET UPDATE message and continues to communicate on the added radio link.

8.3.4.5.4 Method of test

Initial Condition

System Simulator : 3 cells - Cell 1 , Cell 2, and Cell 3 are all active

UE :CELL_DCH in cell 1, cell 2 (The assumed maximum number for active set is 2.)

[Editor's Note] The maximum number of radio link (i.e. MaxRL) specified in CR328 of TS 25.331 is 8. However, if the UE capability is more inferior in this aspect, can the assumption above still stands?

Test Procedure

The UE establishes a radio access bearer in the CELL_DCH state in cell 1 and cell 2. The SS configures the new radio link in cell 3 and sends an ACTIVE SET UPDATE message on DCCH using AM. This message includes IE" Radio Link Addition Information" indicating cell 3 to be added into the active set, and IE" Radio Link Removal Information" indicating the removal of cell 1 from the active set. When the UE receives this message, it shall not report a failure but firstly removes the indicated radio link and then adds the new radio link. Then the UE transmits an ACTIVE SET UPDATE COMPLETE message on the DCCH using AM RLC to the SS and continues to communicate with the SS on the added radio link and the remaining old radio link.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state in cell 1 and cell 2.
2				The SS configures an additional radio link in for cell 3, and starts reception and transmission using cell 3.
3	←		ACTIVE SET UPDATE	The SS transmit this massage on downlink DCCH using AM RLC which includes IE" Radio Link Addition Information" and IE" Radio Link Removal Information". The contents of the IE dictate the addition of cell 3 into the active set and removal of cell 1 from it.
4	→		ACTIVE SET UPDATE COMPLETE	The UE shall configure a new radio link in cell 3 and removes the old radio link in cell 1.
5				The SS removes the radio link in cell 1. The UE shall continue to communicate on the added radio link in cell 3 and also the existing radio link in cell 2.

Specific Message Content

ACTIVE SET UPDATE

The message to be used in this test case isidentical to the same message sub-type found in TS 34.108 Clause 8clause, with the following exceptions:

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 3
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- CHOICE Spreading factor	512
- Code Number	For each DPCH, assign the same code number in the current code given in cell3.
- Scrambling code change	Not Present
- TPC Combination Index	Not Present
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH information for FACH	Not Present
~~- Secondary CCPCH Info~~	~~Not Present~~
~~- TFCS~~	~~Not Present~~
~~- FACH/PCH Information~~	~~Not Present~~
~~- Reference to other system information blocks~~	~~Not Present~~
Radio link removal information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code assigned as for cell 1

8.3.4.5.5 Test requirement

After step 3 the UE shall remove the radio link in cell 1 and add the radio link in cell 3. Then the UE shall transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH.

After step 4 the UE shall continue to communicate on the added radio link in cell 3 and on the existing old radio link in cell 2. It shall cease all transmission to cell 1.

8.3.4.6 Active set update in soft handover: Subsequent reception of ACTIVE SET UPDATE message / Incompatible simultaneous reconfiguration

8.3.4.6.1 Definition

8.3.4.6.2 Conformance Requirements

The UE shall ignore a subsequent ACTIVE SET UPDATE message, while it is still processing an existing active set update procedure. It shall continue to configure itself in accordance to the first ACTIVE SET UPDATE message received. When encountering a “simultaneous reconfiguration” situation, the UE shall transmit a ACTIVE SET FAILURE message on the DCCH using AM RLC with value “incompatible simultaneous reconfiguration” set in IE”failure cause”. Then the UE shall continue to execute the ordered reconfiguration (for example due to a radio bearer reconfiguration) as if the ACTIVE SET UPDATE message has not been received.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.6.3 Test Purpose

To confirm that the UE continues to execute the prior active set update request, when it receives a subsequent ACTIVE SET UPDATE messages before it has completely executed the first update procedure. To confirm that the UE transmits an ACTIVE SET UPDATE FAILURE message to report the detection of a “incompatible simultaneous reconfiguration” condition, when an ACTIVE SET UPDATE message was received before the UE can complete an on-going radio bearer reconfiguration procedure.

Method of test

Initial Condition

System Simulator : 2 cells – both cell 1 and cell 2 are active

UE : CELL_DCH in cell 1 and cell 2

8.3.4.6.4 Test Procedure

The UE establishes a radio access bearer in CELL_DCH state in cell 1 and cell 2. SS transmits an ACTIVE SET UPDATE message to request for the removal of cell 1 from the active list. When the UE sends an acknowledgement for this message from its RLC entity, SS immediately transmits a second ACTIVE SET UPDATE message, which specifies cell 1 to be added into the active list. SS verifies that the UE ceases transmission on the radio link associated with cell 1 when the activation time indicated in the first ACTIVE SET UPDATE message is reached. Next, SS sends a RADIO BEARER RELEASE message using AM-RLC on the DCCH. In this message, SS requests the release of the radio access bearer. When RLC acknowledgement has been received from the UE, SS immediately sends an ACTIVE SET UPDATE message. In this message, SS commands the UE to add cell 1 into its active list with the activation time set to “now”. The UE shall react by transmitting ACTIVE SET UPDATE FAILURE message on the DCCH using AM-RLC mode. In this message, the IE ”failure cause” shall be set to “incompatible simultaneous reconfiguration”. When the activation time stated in RADIO BEARER RELEASE message has elapsed, the UE shall transmit the RADIO BEARER RELEASE COMPLETE message to inform that the assigned radio access bearer is release. When SS receives this message, it verifies that UE continues to communicate with the SS on the radio link associated with cell 2 only, and that no user data are exchanged on the previously available radio access bearer.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is CELL_DCH state in both cell 1 and cell 2.
2	←		ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC, requesting for cell 1 to be removed from the active set.
3	←		ACTIVE SET UPDATE	Immediately after UE acknowledges the message in step 2, SS transmits this message. This message specifies that cell 1 be added into the active set.
4				SS waits until the activation time stated in step 2 has elapsed, and verifies that the UE stops transmitting on the radio link of cell 1.
5	→		ACTIVE SET UPDATE COMPLETE	UE shall transmit this message to signal the

6	←	RADIO BEARER RELEASE	SS checks that UE stops all uplink activities on the radio link associated with cell 1. SS requests that the radio access bearer allocated to the UE be
8	→	ACTIVE SET UPDATE FAILURE	In IE "failure cause", the reason "incompatible simultaneous reconfiguration" shall be stated.
9	→	RADIO BEARER RELEASE COMPLETE	The UE shall send this message when the activation time specified in step 6 is reached. Upon reception of this message, SS verifies that there is no more uplink user traffic on the radio access bearer.

Specific Message Contents

ACTIVE SET UPDATE (Step 2)

Use the default message for this type found in Annex, with the following exceptions:

Information Element	Value/remark
Radio link addition information	Not Present.
Radio link removal information	
- Primary CPICH info	
- Primary scrambling code	Set to the P-CPICH scrambling code assigned to cell 1.

ACTIVE SET UPDATE (Step 3)

Use the default message for this type found in Annex A, with the following exceptions

Information Element	Value/remark
Radio link addition information	
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as assigned for cell 1
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	P-CPICH can be used.
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- DL channelisation code	This IE is repeated for all existing downlink DPCHs allocated to the UE
- Secondary scrambling code	Not Present
- CHOICE Spreading Factor	512
- Code Number	For each DPCH, assign the same code number in the current code given in cell 1.
- Scrambling code change	Not Present
- TPC Combination Index	Not Present
- SSDT Cell Identity	Not Present
- Close loop timing adjustment mode	Not Present
- TFCI Combining Indicator	Not Present
- SCCPCH Information for FACH	Not Present
~~- Secondary CCPCH Info~~	~~Not Present~~
~~- TFCS~~	~~Not Present~~
~~- FACH/PCH information~~	~~Not Present~~
~~- Reference to other system information blocks~~	~~Not Present~~
Radio link removal information	Not Present

ACTIVE SET UPDATE COMPLETE (Step 5)

Only the message type for this message is checked.

RADIO BEARER RELEASE (Step 6)

Use the same message sub-type titled “AM or UM (The others of speech in CS)“ found in Annex A.

ACTIVE SET UPDATE (Step 7)

Use the same message as in that for step 3, with the following exception:

Information Element	Value/remark
Activation Time	Not Present – use default

ACTIVE SET UPDATE FAILURE (Step 8)

Information Element	Value/remark
Failure Cause	Check to see if set to “Incompatible simultaneous reconfiguration”

RADIO BEARER RELEASE COMPLETE (Step 9)

Information Element	Value/remark
Integrity check Info Uplink integrity protection activation info Radio bearer uplink ciphering activation time info	Not checked Not checked Not checked

8.3.4.6.5 Test Requirement

After step 5 the UE shall ignore the second ACTIVE SET UPDATE message received, terminate the radio link in relation to cell 1, and transmit ACTIVE SET UPDATE COMPLETE using AM-RLC on the uplink DCCH of cell 2.

After step 7 the UE shall report the “incompatible simultaneous reconfiguration” error by transmitting ACTIVE SET UPDATE FAILURE message on the DCCH.

After step 8 the UE shall send RADIO BEARER RELEASE COMPLETE message to cell 2 on the uplink DCCH, using AM-RLC mode. The UE shall stop all transmissions of user traffic on the radio access bearer assigned.

8.3.4.7 Active set update in soft handover: Invalid Message Reception

8.3.4.7.1 Definition

8.3.4.7.2 Conformance Requirement

The UE shall keep its old configuration when the UE receives an ACTIVE SET UPDATE message, which omits a conditional IE. It shall transmit a ACTIVE SET UPDATE FAILURE message which set value “protocol error” in IE” failure cause” and also value “Conditional information element error” in IE” Protocol error cause”.

Reference

3GPP TS 25.331 clause 8.3.4

8.3.4.7.3 Test Purpose

To confirm that the UE retains its active set list when it receives an ACTIVE SET UPDATE message, with a conditional IE missing in the message.

8.3.4.7.4 Method of test

Initial Condition

System Simulator : 2 cells – both cell 1 and cell 2 are actiive.

UE : CELL_DCH in cell 1 (Integrity protection algorithm is not applied at the start of test)

Test Procedure

The UE establishes a radio access bearer in CELL_DCH in cell 1. SS requests that cell 2 be added into the active set by performing the steps described in test cases 8.3.4.1. The UE shall react accordingly and incorporate cell 2 into its active set. SS transmits an ACTIVE SET UPDATE message , with both IE"Integrity check info" and IE"Integrity protection mode info" present in the message. This message also commands the starting of integrity mode protection. However, the IE"integrity protection initialisation number" is omitted. The UE shall detect that it has received an invalid message. It shall then send a ACTIVE SET UPDATE FAILURE message, stating the reason "Conditional information element error" in the IE"Protocol error information". The UE shall not remove cell 1 from its current active set.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is CELL_DCH state in cell 1.
2				SS executes the steps in test case 8.3.4.1. The UE shall add cell 2 into its active set.
3	←		ACTIVE SET UPDATE	The SS transmits this message on downlink DCCH using AM RLC which includes IE"Integrity check info" and IE"Integrity protection mode info". This message indicates that integrity mode protection be started but omit the IE"integrity protection initialisation number". The message also specifies that cell 1 be removed from the active set.
4	→		ACTIVE SET UPDATE FAILURE	The message shall state "conditional information element error" in IE"protocol error information". UE shall

Specific Message Contents

ACTIVE SET UPDATE (Step 3)

The message to be used in this test is defined in the default message content clause, with the following exceptions:

Information Element	Value/remark
Integrity Check Info	
- Message authentication code	Set to an arbitrary 32-bits string
- RRC Message sequence number	Set to an arbitrary integer between 0 and 15
Integrity Protection Mode Info	
- Integrity protection mode command	Start
- Downlink integration protection activation info	Not Present
- Integrity protection algorithm	Standard UMTS Integrity Algorithm UIA1
- Integrity protection initialisation number	Not Present
Radio link addition information	Not Present
Radio link removal information	
- Primary CPICH info	
- Primary scrambling code	Set to the P-CPICH scrambling code assigned to cell 1.

ACTIVE SET UPDATE FAILURE (Step 4)

Information Element	Value/remark
Protocol Error Information - Protocol Error Cause	Check to see if it's set to 'Conditional information element error'

8.3.4.7.5 Test Requirement

After step 3 the UE shall report a protocol error by transmitting the ACTIVE SET UPDATE FAILURE message on the DCCH. In this message, the value "Conditional information element error" shall be set in IE"Protocol Error Information". The UE shall continue to communicate normally with the SS using cell 1 and cell 2.

Hard Handover

[Editor's note : This test is included in the "Physical channel reconfiguration" , "Radio bearer establishment" , "Radio bearer reconfiguration" , "Radio bearer release" and " Transport channel reconfiguration".]

8.3.6 Inter system hard handover to UTRAN

[Editor's note : This test is FFS until R2000 core specification will be defined.]

8.3.7 Inter system hard handover from UTRAN

[Editor's note : This test is FFS until R2000 core specification will be defined.]

8.3.8 Inter system cell reselection to UTRAN

[Editor's note : This test is FFS until R2000 core specification will be defined.]

8.3.9 Inter system cell reselection from UTRAN

[Editor's note : This test is FFS until R2000 core specification will be defined.]

8.4 Measurement procedure

8.4.1 Measurement Control and Report

8.4.1.1 Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_DCH state

8.4.1.1.1 Definition

8.4.1.1.2 Conformance requirement

After a state transition from idle mode to CELL_DCH state, the UE shall continue to monitor the list of neighbouring cells which is specified in the SYSTEM INFORMATION BLOCK TYPE 11 (or 12) messages on BCCH. The UE shall send a MEASUREMENT REPORT message when reporting criteria are satisfied. During CELL_DCH state, if the UE receives a MEASUREMENT CONTROL message, it shall terminate existing monitoring activities for the neighbouring cells previously known from SYSTEM INFORMATION BLOCK TYPE 11 (or 12) messages. It shall perform the measurement and reporting tasks based on the latest MEASUREMENT CONTROL message received.

Reference

3GPP TS 25.331 clause 8.4.1.9

8.4.1.1.3 Test Purpose

To confirm that the UE continue to monitor CPICH RSCP measurement quantity of the neighbour cells after it has entered the CELL_DCH state from idle mode. When the criteria specified in BCCH have been met, it shall report the measurements to the SS using MEASUREMENT REPORT messages. To confirm that in CELL_DCH state, the UE respond to a modification of measurement criteria and adjust its measurement and reporting mechanism accordingly. To confirm that the UE terminates monitoring and measurement activities for the neighbour cells found in SYSTEM INFORMATION BLOCK TYPE 11 (or 12) message, after it has received a MEASUREMENT CONTROL message which specifies the measurement type to be “intra-frequency measurement”. To confirm that the UE restart the monitoring and reporting activities based on the last MEASUREMENT CONTROL message received.

8.4.1.1.4 Method of test

Initial Condition

System Simulator : 2 cells – Cell 1 is active and the downlink P-CPICH has a transmission level (RSCP) of –40 dBm, cell 2 is also active but with a P-CPICH transmission power 10dB below cell 1.

UE : idle state after having successfully camped onto cell 1.

Test Procedure

The UE is initially at idle mode and has selected cell 1 for camping. The SYSTEM BLOCK TYPE 11 message is modified with respect to the default settings to prevent reporting of CFN-SFN difference and also to include cell 2 into the monitored neighbour cell list. The key measurement parameters are as follow: measurement type = “intra-frequency measurement”, measurement quantity = “CPICH RSCP”, report criteria = “periodic reporting criteria”, reporting interval = “12 seconds”.

SS pages the UE with the cause set to terminating call of a supported traffic class. The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates uplink and downlink DPDCH physical resources to the UE. UE then moves to CELL_DCH state. After approximately 12 seconds, the UE shall transmit a MEASUREMENT REPORT message with measurement readings from cell 2. SS waits for 25 seconds after the sending of RRC

CONNECTION SETUP message to verify that 2 consecutive MEASUREMENT REPORT messages are received.

Then SS modifies the contents of MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK TYPE 12 messages. The measurement parameters for cell 2 are changed in the following manner: report criteria = “event-trigger”, event identity = “1f”, reporting threshold = “-65 dBm”. SS then begins to decrease the transmission power of P-CPICH in cell 2 progressively at the rate of 0.5dB/sec. SS checks to see that no MEASUREMENT REPORT messages are sent within the next 12 seconds (which is due to periodic reporting). The UE shall detect this change and discontinue the periodic reporting of RSCP value estimation from cell 2. After approximately 35 seconds later, the UE shall transmit MEASUREMENT REPORT message to indicate that the RSCP of cell 2 has reached the threshold specified. In this message, the correct measurement identity shall be stated. Finally, SS sends a MEASUREMENT CONTROL message to request a periodic reporting of measurement quantity P-CPICH Ec/No from cell 2. The reporting interval is set to 32 seconds. Within the MEASUREMENT CONTROL message, a new measurement identity is assigned. After receiving this message, the UE shall stop reporting quantity P-CPICH RSCP of cell 2. Moreover, the UE shall start to transmit MEASUREMENT REPORT messages with the contents pertaining to new measurement identity on cell 2’s P-CPICH Ec/No.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 11	The UE is idle mode and camped onto cell 1. Cell 2 is also active but the P-CPICH has a RSCP 10dB below that of cell 1. SYSTEM INFORMATION TYPE 12 to be transmitted is different from the default settings (see specific message contents)
2		←	PAGING TYPE 1	SS sends this message to page for the UE.
3		→	RRC CONNECTION REQUEST	
4		←	RRC CONNECTION SETUP	SS allocates DPCH physical channels to UE
5		→	RRC CONNECTION COMPLETE	UE transmits this message to acknowledge the SETUP message and moves to CELL_DCH state.
6		→	MEASUREMENT REPORT	SS waits for 25 seconds. It shall receive 2 consecutive MEASUREMENT REPORT messages
7		←	MASTER INFORMATION BLOCK SYSTEM INFORMATION BLOCK TYPE 12	SS modifies the contents of system information, so that measurement for cell 2 is changed to “event trigger” with “event identity” set to 1f. SS then reduces the transmission power of cell 2’s P-CPICH progressively by 0.5dB/sec.
8				SS monitors the DCCH for the next 12 seconds to make sure that no further MEASUREMENT REPORT messages are transmitted.

9	→	MEASUREMENT REPORT	UE shall transmit this message approximately 35 seconds after step 7, as its internal estimation of the RSCP of cell 2 has dropped below the threshold.
10	←	MEASUREMENT CONTROL	A new measurement identity is assigned, with the reporting quantity changed to cell 2's P-CPICH Ec/No
11	→	MEASUREMENT REPORT	SS verifies that UE transmits MEASUREMENT REPORT messages periodically to report the P-CPICH Ec/No value of cell 2.

Specific Message Contents

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

SYSTEM INFORMATION BLOCK TYPE 11 (Step 1)

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	1
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin	-115dB
- Qrxlevmin	-20dB
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	No report
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	12 seconds
- Inter-frequency measurement system information	Not present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

RRC CONNECTION REQUEST

Information Element	Value/Remarks
Establishment cause	Check to see if set to terminating call of a supported traffic class
Measured results on RACH	Check to see if this IE is absent

RRC CONNECTION SETUP

Use the message sub-type in default message content, which is marked as “Transition to CELL_DCH”.

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 1
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to “Intra-frequency measured results list”
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 2~~it is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it’s the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check value to see if within acceptable range
- Pathloss	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

MASTER INFORMATION BLOCK (Step 7)

Information Element	Value/Remarks
MIB Tag	2

SYSTEM INFORMATION BLOCK TYPE 12 (Step 7)

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	2
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	No report
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	No report
- SFN-SFN observed time difference	FALSE
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameter required for each event	
- Intra-frequency event identity	Event type 1f
- Triggering condition	Monitored set cells
- Reporting range	Not present
- Cells forbidden to affect reporting	Not present
- W	Not present
- Hysteresis	Not Present
- Threshold Used Frequency	-65dBm
- Reporting deactivation threshold	Not present
- Replacement activation threshold	Not present
- Time to trigger	0
- Amount of reporting	Infinity
- Reporting Interval	8 seconds
- Reporting Cell Status	Not Present
- Inter-frequency measurement system information	Not present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

MEASUREMENT REPORT (Step 9)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 2
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to “Intra-frequency measured results list”
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 2~~it is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it’s the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check value to see if this is below threshold value specified
- Pathloss	Check to see if this IE is absent
Event Results	
- Intra-frequency event identity	Check to see if this is set to event ‘1f’
- Cell measured event results	
- Primary CPICH Info	
- Primary scrambling code	Check to see if it’s set to cell 2’s assigned scrambling code

MEASUREMENT CONTROL

Information Element	Value/Remark
Measurement Identity Number	3
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	Same as in default message content
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	~~Not present~~
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	32 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 11)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 3
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 2~~it is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is present
- CPICH RSCP	Check to see if this IE is absent
- Pathloss	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

8.4.1.1.5 Test Requirement

After step 5 the UE shall start to transmit MEASUREMENT REPORT message. The measurement quantity "CPICH RSCP" shall be reported to the SS at 12 seconds interval.

After step 7 UE shall not transmit any MEASUREMENT REPORT messages within 12 seconds after SS has modified the MASTER INFORMATION BLOCK and SYSTEM INFORMATION BLOCK TYPE 12 messages.

The UE shall transmit a MEASUREMENT REPORT message roughly 35 seconds after step 7, to report that the RSCP value for cell 2 has dropped below the threshold.

After step 10 the UE shall transmit MEASUREMENT REPORT messages at 32 seconds interval, with the IE"Measurement Identity" set to 3. The message shall also include an estimation of cell 2's P-CPICH Ec/No value.

8.4.1.2 Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_DCH state

8.4.1.2.1 Definition

8.4.1.2.2 Conformance requirement

After entering CELL_DCH state from idle mode, the UE shall discontinue the monitoring of the list of neighbouring cells assigned in the SYSTEM INFORMATION BLOCK TYPE 11 messages on BCCH. In CELL_DCH state, when the UE receives a MESUREMENT CONTROL message requesting for inter-frequency measurement to be setup, it shall start inter-frequency measurement and the associated reporting activities if "DPCH compressed mode status info" IE in the message simultaneously activates at least one compressed mode pattern sequence. When the UE receives a MEASUREMENT CONTROL message with "Reporting cell status" IE omitted, it shall not include "Cell measured results" IE for any cells in MEASUREMENT REPORT messages sent on uplink DCCH.

Reference

3GPP TS 25.331 clause 8.4.1.9

8.4.1.2.3 Test Purpose

To confirm that the UE terminates the monitoring activities of the list of neighbouring cell assigned in the IE"inter-frequency cell info" in SYSTEM INFORMATION BLOCK TYPE 11 messages, after it enters CELL_DCH state from idle mode. To confirm that the UE starts to perform inter-frequency measurement and related reporting activities, when it receives a MEASUREMENT CONTROL message with the "DPCH compress mode status info" IE indicating that an existing dormant compressed mode pattern sequence be simultaneously activated. To confirm that the UE exclude the IE "cell measured results" for any cells in the MEASUREMENT REPORT messages, after it receives a MEASUREMENT CONTROL message with "Reporting cell status" IE omitted.

8.4.1.2.4 Method of test

Initial Condition

System Simulator: 2 cells – Cell 1 is active and has a transmission level (CPICH RSCP) of –50 dBm for P-CPICH, cell 2 is also active but with a transmission power 20dB below cell 1. The carrier frequency of cell 1 in the uplink direction is 1 UARFCN above that of cell 2, and in the downlink direction cell 1 carrier is 1 UARFCN above that of cell 2.

UE : idle state and after it has camped onto cell 1.

Test Procedure

The UE is initially at idle mode and has selected cell 1 for camping. The SYSTEM BLOCK INFORMATION TYPE 12 message is modified with respect to the default settings to prevent reporting of CFN-SFN difference, and also to include cell 2 into the monitored neighbour cells list. The key measurement parameters are as follow: measurement type = “inter-frequency measurement”, measurement quantity = “CPICH RSCP”.

SS pages the UE , stating the paging cause as terminating call for one of the traffic classes supported by the UE. The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates uplink and downlink dedicated physical resources to the UE. UE then moves to CELL_DCH. The UE shall not transmit any MEASUREMENT REPORT messages, which pertain to measurement readings from cells belonging to the monitored set.

SS sends PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH, specifying that compressed mode sequence pattern with TGPSI=1 be deactivated. The UE shall reply with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on the uplink DCCH. It shall stop compressed mode operations at the activation time stated in PHYSICAL CHANNEL RECONFIGURATION message. After the designated activation time has elapsed, SS sends MEASUREMENT CONTROL message on the downlink DCCH. In this message, SS requests UE to perform inter-frequency measurement with periodic reporting of CPICH RSCP values for cell 2. The “DPCH compressed status info” IE in this message activates the compressed mode pattern sequence with TGPSI = 1. The UE shall starts inter-frequency measurement for cell’s CPICH RSCP values. It shall report this measurement result by transmitting MEASUREMENT REPORT messages on uplink DCCH periodically at 16 seconds time interval.

In the next sequence, SS sends another MEASUREMENT CONTROL message on the downlink DCCH. In this message, the IE “Reporting cell status” is not included. The UE shall send a MEASUREMENT REPORT message on the uplink DCCH, excluding the IE “Cell measured results”.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 11	The UE is idle mode and camped onto cell 1. Cell 2 is also active but has transmission power 20dB below that of cell 1. SYSTEM INFORMATION BLOCK TYPE 11 to be transmitted is different from the default settings (see specific message contents)
2		←	PAGING TYPE 1	SS sends this message to page for the UE.
3		→	RRC CONNECTION REQUEST	
4			RRC CONNECTION SETUP	SS allocates dedicated physical channels to UE, using compressed mode format

5	→	RRC CONNECTION SETUP COMPLETE	UE transmits this message to acknowledge the RRC CONNECTION SETUP
6			SS raises the transmission power of cell 2 by 10dB. SS checks to see that no MEASUREMENT REPORT messages are sent from UE to cell 1.
7	←	PHYSICAL CHANNEL RECONFIGURATION	Existing compressed mode sequence pattern is de-activated in this message.
8	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall remain in CELL_DCH state.
9	←	MEASUREMENT CONTROL	SS requests UE to start inter-frequency measurement for cell 2 and performing periodic reporting for cell'2 CPICH RSCP. "DPCH compressed mode status info" IE is set to simultaneously activate compressed mode pattern.
10	→	MEASUREMENT REPORT	UE shall report cell 2's CPICH RSCP reading periodically.
11	←	MEASUREMENT CONTROL	SS changes the reporting criteria of cell 2 to 'event 2c'. "Reporting cell status" IE in this message is omitted.
12	→	MEASUREMENT REPORT	SS monitors the uplink DCCH to make sure that only 1 such message is received 32 seconds after step 11. This message shall not contain IE "Cell measured results"

Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

SYSTEM INFORMATION BLOCK TYPE 11

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency measurement identity number	1
- Inter-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 2
- Frequency info	
- UARFCN uplink (Nu)	Set to the next uplink UARFCN after cell 1
- UARFCN downlink (Nd)	Set to the previous downlink UARFCN before cell 1
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and re-selection info for SIB 11/12	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20 dB, -115dBm
- Inter-frequency measurement quantity	
CHOICE Reporting criteria	Inter-frequency reporting criteria
- Filter coefficient	0
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency measurement reporting criteria	
- Parameters required for each event	2c
- Inter-frequency event identity	Not Present
- Threshold used frequency	Not Present
- W used frequency	2.0dB
- Hysteresis	0 sec
- Time to trigger	Infinity
- Amount of reporting	0
- Reporting interval	Not Present
- Parameters required for each non used frequency	-65dBm
- Threshold non-used frequency	0
- W non-used frequency	Not Present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	

RRC CONNECTION REQUEST

Information Element	Value/Remarks
Establishment cause	Check to see if set to Terminating call of a supported traffic class
Measured results on RACH	Check to see if this IE is absent

RRC CONNECTION SETUP

Use the message sub-type found in TS 34.108 clause 9 which is marked as “Transition to CELL_DCH”, with the following exceptions:

Information Element	Value/Remarks
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE Mode	FDD
- Downlink DPCH power control information	0 (Single)
- DPC mode	Refer to the parameter set in TS 34.108
- DL rate matching restriction information	Not Present
- Spreading factor	
- Fixed or flexible position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits (SF=128, 256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- TIP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0

PHYSICAL CHANNEL RECONFIGURATION

Information Element	**Value/remark**
Message Type	
Integrity check info	Not Present
Integrity protection mode info	Not Present
Ciphering mode info	Not Present
Activation time	(256+CFN - (CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	No DRX
UTRAN DRX cycle length coefficient	Not Present –use default
CN information info	Not Present
URA identity	Not Present
RB with PDCP information	Not Present
Frequency info	Not Present – use default
Maximum allowed UL TX power	33dBm
CHOICE *channel requirement*	Uplink DPCH info
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0
- Number of DPDCH	Not Present (Use default value of 1)
- Spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present (Use default value of 0)

- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits (SF=128,256)	Not Present
- DPCH compressed mode info	
- Transmission gap pattern sequence	
- TGPSI	1
- TPGS status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
Downlink information per radio link list	Not Present

MEASUREMENT CONTROL (Step 9)

Information Element	Value/Remark

Measurement Identity Number	1
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 2
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 2
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- TGPSI	1
- TGPS Status Flag	Active

MEASUREMENT REPORT (Step 10)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to “Inter-frequency measured results list”
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 2
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 2
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 2
- CPICH Ec/No	Check to see if it is absent
- CPICH RSCP	Check to see if it is present
- Pathloss	Check to see if it is absent
Event Results	Check to see if it is absent

MEASUREMENT CONTROL (Step 11)

Information Element	Value/Remark

Measurement Identity Number	1
Measurement Command	Modify
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 2
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 2
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	Not Present
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	Event 2c
- Threshold used frequency	Not Present
- W used frequency	Not Present
- Hysteresis	0.5 dB
- Time to trigger	0 milliseconds
- Amount of reporting	1
- Reporting interval	0
- Reporting cell status	Not Present
- Parameters required for each non-used frequency	
- Threshold non used frequency	-85 dBm
- W non used frequency	0
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 12)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 1
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 2
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 2
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	Check to see if it is absent
- Cell measured results	
Event Results	Check to see if it is absent

8.4.1.2.5 Test Requirement

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages pertaining to the measurement of CPICH Ec/No quantity of cell 2.

After step 9 the UE shall transmit MEASUREMENT REPORT messages on uplink DCCH, reporting cell 2's CPICH RSCP value at periodic time interval of 16 seconds.

After step 11 the UE shall transmit only 1 MEASUREMENT REPORT message on the uplink DCCH. In this message, no "Cell measured results" IEs should be found present.

8.4.1.3 Measurement Control and Report: Intra-frequency measurement for transition from idle mode to CELL_FACH state

8.4.1.3.1 Definition

8.4.1.3.2 Conformance requirement

During a transition from idle mode to CELL_FACH state, the UE shall start to monitor neighbouring cells listed in the IE"Intra-frequency cell info" received in SYSTEM INFORMATION BLOCK TYPE 11. If a measurement report criteria is also specified, the UE shall store this information and apply these rules when deciding to transmit MEASUREMENT REPORT messages during a subsequent transition to CELL_DCH state. If reporting during RACH transmissions is dictated by the UTRAN, the UE shall append the relevant measurement information when sending messages on RACH (e.g. RRC CONNECTION REQUEST and CELL UPDATE).

Reference

3GPP TS 25.331, clause 8.4.1.9

8.4.1.3.3 Test Purpose

To confirm that the UE begins to monitor the neighbouring cells in the monitored list after it has entered the CELL_FACH state. The list of neighbouring cell can be known from SYSTEM INFORMATION BLOCK TYPE 11 messages. If information regarding the intra-frequency measurement reporting criteria is also broadcasted, the UE shall save this information and apply the criteria during a subsequent transition to CELL_DCH state. If RACH measurement reporting is dictated in SYSTEM INFORMATION BLOCK TYPE 11 messages, the UE shall include these measurements when transmitting on the RACH channel.

8.4.1.3.4 Method of test

Initial Condition

System Simulator : 2 cells – both cell 1 and cell 2 are active. Cell 2 is transmitting at 15 dB below cell 1.

UE : idle state and camped onto cell 1.

Test Procedure

The UE is initially at idle mode and has selected cell 1 for camping. The SYSTEM BLOCK TYPE 12 message is modified with respect to the default settings to prevent reporting of CFN-SFN difference and also to include cell 2 into the monitored neighbour cell list. The key measurement parameters are as follow: measurement type = “intra-frequency measurement”, measurement quantity = “CPICH Ec/No”, report criteria = “periodic reporting criteria”, reporting interval = “12 seconds”. In the system information message, reporting of CPICH Ec/No is also required for intra-frequency reporting when transmitting RACH messages to cell 1.

SS pages the UE with the cause specified as terminating call of one of the traffic classes supported by the UE. The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates PRACH and S-CCPCH (FACH) physical channels for uplink and downlink use. UE shall then enter CELL_FACH state. SS waits until timer T305 expires, the UE shall send a CELL UPDATE message including the measurement reading of cell 2’s CPICH Ec/No values. SS then reply with CELL UPDATE CONFIRM message on the downlink DCCH, without changing the physical channel resources.

In the next sequence, SS transmits PHYSICAL CHANNEL RECONFIGURATION message, and allocates DPDCH channels to the UE. The UE shall transit to CELL_DCH state and send a MEASUREMENT REPORT message, correctly stating the measurement identity. The measurement identity indicated shall match the value that was previously broadcasted on SYSTEM INFORMATION BLOCK TYPE 11 when the UE was still in idle mode.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1		←	SYSTEM INFORMATION BLOCK TYPE 2, SYSTEM INFORMATION BLOCK TYPE 11	The UE is idle mode and camped onto cell 1. Cell 2 is also active but has transmission power 15dB below that of cell 1. SYSTEM INFORMATION TYPE 2 and 11 to be transmitted are different from the default settings (see specific message contents)
2		←	PAGING TYPE 1	SS sends this message to page for the UE.
3		→	RRC CONNECTION REQUEST	The Ec/No value of P-CPICH
4		←	RRC CONNECTION SETUP	SS allocates common physical channels to UE.
5		→	RRC CONNECTION COMPLETE	UE shall enter CELL_FACH state, and transmit this message to acknowledge the SETUP message.
6				SS waits for 5 minutes (for the expiry of T305 timer), so that UE will initiate a periodic cell updating procedure.
7		→	CELL UPDATE	This message shall contain measurement readings of CPICH Ec/No for cell 1.
8		←	CELL UPDATE CONFIRM	SS does not change the

9	←	PHYSICAL CHANNEL RECONFIGURATION	SS assigns DPCH physical resources to the UE, but keeps the parameters for transport channels and RBs unchanged.
10	→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall transit to CELL_DCH state after sending this
11	→	MEASUREMENT REPORT	UE shall begin to report cell 2's CPICH Ec/No value periodically at 12 seconds interval. The measurement identity shall match that broadcasted in step 1

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 2

Information Element	Value/Remarks
UE Timers and constants in connected mode - T305	 5 minutes.

SYSTEM INFORMATION BLOCK TYPE 11

Information Element	Value/Remark
Reference to other system information blocks	
FACH measurement occasion info	
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	5
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Intra-frequency Measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH Ec/No
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH Ec/No
- Maximum number of reported cells on RACH	Current cell
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	No report
- SFN-SFN observed time difference	FALSE
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected set cells	Not present
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	12 seconds
- Reporting Cell Status	~~Not Present~~
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Inter-frequency measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

PAGING TYPE 1

Information Element	Value/Remarks
Paging record list - Paging Record - CHOICE Paging originator - Paging cause - CN domain identity - CHOICE UE identity - IMSI (DS-41) or IMSI (GSM-MAP)	 CN Originator Terminating Call for one of the supported traffic classes PS Domain IMSI (DS-41) or IMSI (GSM-MAP) Set to the same IMSI (DS-41) or IMSI (GSM-MAP) digits found in the test USIM.

RRC CONNECTION REQUEST

Information Element	Value/Remarks
Initial UE Identity	Check to see if it is the same as in PAGING TYPE 1 message
Establishment cause	Check to see if set to terminating call of the compatible traffic classes supported by the UE
Measured results on RACH - Measured result for current cell - CHOICE measurement quantity - CPICH Ec/No	 Check to see if value is present
- Measured results for monitored cells	Check to see if this IE is absent

RRC CONNECTION SETUP

Use the same message sub-type found in Clause 9 of TS34.108, which is entitled “Transition to CELL_FACH”.

CELL UPDATE

Information Element	Value/Remarks
U-RNTI	Check to see if set to same U-RNTI value assigned in RRC CONNECTION SETUP message.
Integrity check info	Not checked
AM_RLC error indicator (for C-plane)	Check to see if set to ‘FALSE’
AM_RLC error indicator (for U-plane)	Check to see if set to ‘FALSE’
START List	Checked to see if the ‘CN domain identity’ and ‘START’ IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell update cause	Check to see if set to ‘Periodic cell updating’
Protocol error indicator	Check to see if set to ‘FALSE’
Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH Ec/No	 CPICH Ec/No Checked to see if set to within an acceptable range.
- Measurement results for monitored cells	Checked to see if this IE is not present.
Protocol error information	Check to see if set to ‘FALSE’

PHYSICAL CHANNEL RECONFIGURATION

Use the same message sub-type found in Clause 9 of TS34.108, which is entitled “Packet to CELL_DCH from CELL_FACH”.

MEASUREMENT REPORT

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 5
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 2~~it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is within acceptable range
- CPICH RSCP	Check to see if this IE is absent
- Pathloss	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

8.4.1.3.5 Test Requirement

After step 3 the UE shall send RRC CONNECTION REQUEST message in response to the paging message sent by the SS, which includes reading of the current cell's CPICH Ec/No value.

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages.

After step 6 the UE shall initiate cell update procedure by transmitting CELL UPDATE message. In this message, the cause shall be set to "periodic cell updating". It shall include measurement readings for the current cell (cell 1) CPICH Ec/No measurement quantity.

After step 10 the UE shall move to CELL_DCH state and transmit MEASUREMENT REPORT messages at 12 seconds interval. In these messages, neighbouring cell 2's CPICH Ec/No value shall be reported. The IE"measurement identity" in this message shall match the IE"Intra-frequency measurement identity" found in SYSTEM INFORMATION BLCOK TYPE 11 messages transmitted in step 1.

8.4.1.4 Measurement Control and Report: Inter-frequency measurement for transition from idle mode to CELL_FACH state

8.4.1.4.1 Definition

8.4.1.4.2 Conformance requirement

After entering CELL_FACH state from idle mode, the UE shall start to monitor the list of "inter-frequency" neighbouring cells assigned in the SYSTEM INFORMATION BLOCK TYPE 11 messages on BCCH/FACH.

Reference

3GPP TS 25.331, clause 8.4.1.10

8.4.1.4.3 Test Purpose

To confirm that the UE begins to monitor the list of neighbouring cell assigned in the IE"inter-frequency cell info" in SYSTEM INFORMATION BLOCK TYPE 11 messages, after it enters CELL_FACH state from idle mode. However, it shall not transmit any MEASUREMENT REPORT messages to report measured results for inter-frequency cells.

8.4.1.4.3 Method of test

Initial Condition

System Simulator : 2 cells – Cell 1 is active and has a downlink transmission level for CPICH RSCP at -40 dBm, cell 2 is also active but with a transmission power 10dB below cell 1. The carrier frequency of cell 2 in the uplink direction is 1 UARFCN above that of cell 2, and the downlink carrier is 1 UARFCN below that of cell 1.

UE : idle state and has successfully camped onto cell 1.

Test Procedure

The UE is initially at idle mode and has selected cell 1 for camping. The SYSTEM BLOCK TYPE 12 message is modified with respect to the default settings to prevent reporting of CFN-SFN difference and also to include cell 2 into the monitored neighbour cell list for inter-frequency measurement type. The key measurement parameters are as follow: measurement type = “inter-frequency measurement”, measurement quantity = “CPICH Ec/No”.

SS pages the UE with the cause set to terminating call of a supported traffic class. The UE shall transmit a RRC CONNECTION REQUEST message on the CCCH, SS replies with RRC CONNECTION SETUP message and allocates PRACH channel in the uplink and S-CCPCH(FACH) channel on the downlink to the UE. UE then moves to CELL_FACH. The UE shall not transmit any MEASUREMENT REPORT messages, which pertain to measurement readings from inter-frequency cells belonging to the monitored set. SS decreases the transmission power of CPICH in cell 1 by 10dB. At the same time, it raises the corresponding downlink transmission power of cell 2 by 10dB. This is expected to trigger a cell reselection in the UE. The UE shall send CELL UPDATE message to report this event. Upon receiving this message, SS replies with the default CELL UPDATE CONFIRM message on the downlink DCCH.

Expected Sequence

Step	Direction		Message	Comment
	UE	**SS**		
1	←		SYSTEM INFORMATION BLOCK TYPE 11	The UE is idle mode and camped onto cell 1. Cell 2 is also active but has transmission power 10dB below that of cell 1. SYSTEM INFORMATION TYPE 11 to be transmitted is different from the default settings (see specific message contents)
2	←		PAGING TYPE 1	SS sends this message to page for the UE.
3	→		RRC CONNECTION REQUEST	
4	←		RRC CONNECTION SETUP	SS allocates PRACH and S-CCPCH resources to UE
5	→		RRC CONNECTION COMPLETE	UE transmits this message to acknowledge the SETUP message and moves to CELL_FACH state.
6				SS checks to see that no MEASUREMENT REPORT messages are sent from UE to cell 1.
7				SS decreases the transmission power of cell 1 by 10dB and increases cell 2’s downlink power by 10dB.
8	→		CELL UPDATE	UE shall detect that cell 2 has become stronger than cell 1. It sends this message after reselecting to cell 2
9	←		CELL UPDATE CONFIRM	Use default message.

Specific Message Content

All messages indicated below shall use the same content as described in default message content, with the following exceptions:

SYSTEM INFORMATION BLOCK TYPE 11

clause**Information Element**	**Value/Remark**
Reference to other system information blocks	Not Present
FACH measurement occasion info	
- k_UTRA	2
- Other RAT present in inter-system cell info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-frequency measurement identity number	1
- Inter-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 2
- Frequency info	
- UARFCN uplink (Nu)	Set to the next uplink UARFCN after cell 1
- UARFCN downlink (Nd)	Set to the previous downlink UARFCN before cell 1
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and re-selection info for SIB 11/12	
- $Qoffset_{s,n}$	0 dB
- Maximum allowed UL TX power	0 dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Inter-frequency measurement quantity	
CHOICE Reporting criteria	Inter-frequency reporting criteria
- Filter coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency measurement reporting criteria	
- Parameters required for each event	2c
- Inter-frequency event identity	Not Present
- Threshold used frequency	
- W used frequency	2.0dB
- Hysteresis	0 sec
- Time to trigger	Infinity
- Amount of reporting	0
- Reporting interval	Not Present
- Parameters required for each non used frequency	
- Threshold non-used frequency	-55dBm
- W non-used frequency	0
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

PAGING TYPE 1

For this message, use the same message contents as in step 2 of clause 8. 4.1.3.3.

RRC CONNECTION REQUEST

Information Element	**Value/Remarks**
Establishment cause	Check to see if set to terminating call of the compatible traffic class supported by the UE
Measured results on RACH	Check to see if this IE is absent

RRC CONNECTION SETUP

Use the message sub-type in default message content defined in TS 34.108 Clause 8, which is marked as "Transition to CELL_FACH".

CELL UPDATE

Information Element	Value/Remarks
U-RNTI	Check to see if same to value as in PAGING TYPE 1 message
Integrity check info	Check to see if it is absent
AM_RLC error indication (for C-plane)	Check to see if it is set to FALSE
AM_RLC error indication (for U-plane)	Check to see if it is set to FALSE
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell update cause	Check to see if it is set to "Cell Reselection"
Protocol error info	Check to see if it is absent or set to FALSE
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM

Use the message sub-type in default message content defined in TS 34.108 Clause 8.

8.4.1.4.5 Test Requirement

After step 5 the UE shall not transmit any MEASUREMENT REPORT messages pertaining to the measurement of CPICH Ec/No quantity for cell 2.

After step 7 the UE shall reselect to cell 2 and transmit a CELL UPDATE message on the uplink CCCH of cell 2.

8.4.1.5 Measurement Control and Report: Intra-frequency measurement for transition from CELL_DCH to CELL_FACH state

8.4.1.5.1 Definition

8.4.1.5.2 Conformance requirement

After entering CELL_FACH state from CELL_DCH state, the UE shall terminate intra-frequency type measurement reporting originating from a previous MEASUREMENT CONTROL message. If indicated in the system information messages, the UE shall start to monitor neighbouring cells. The UE shall apply the reporting criteria specified in system information during a subsequent return to CELL_DCH state. If requested to perform measurement reporting on RACH channels, the UE shall append the measured results when transmitting uplink RACH messages.

Reference

3GPP TS 25.331, clause 8.4.1.7

8.4.1.5.3 Test Purpose

To confirm that the UE ceases to perform intra-frequency measurement specified in a previously received MEASUREMENT CONTROL message, when it moves from CELL_DCH state to CELL_FACH state. To confirm that the UE read the system information when in CELL_FACH state and starts to monitor the neighbouring cells as indicated in system information messages. To confirm that the UE performs measurements on uplink RACH channel and append the measured results in RACH messages, when requested in the system information messages.

8.4.1.5.4 Method of test

Initial Condition

System Simulator: 3 cells – Cell 1 and cell 2 are active, but the transmitter of cell 3 is switched off. Cell 1 is transmitting its CPICH (RSCP) at 20 dB above cell 2. The downlink UTRA carriers transmission strength for cell 1 is identical to that of cell 2.

UE: idle state and camped onto cell 1.

Test Procedure

The UE is initially in idle mode and has selected cell 1 as the current cell. SYSTEM INFORMATION BLOCK TYPE 12 message is modified from its default message contents, in order to prevent the reporting of CFN-SFN difference. No measurement requirements are specified for the UE in system information block (type 11 and 12) messages.

SS then prompts the test operator to initiate an outgoing call. When UE transmits a RRC CONNECTION REQUEST message on RACH, SS replies with RRC CONNECTION SETUP message. Uplink and downlink DPDCH physical channels are allocated. Upon receiving RRC CONNECTION SETUP message, the UE shall transmit RRC CONNECTION SETUP COMPLETE message on DCCH and then moves to CELL_DCH state. SS then sends a MEASUREMENT CONTROL message to UE. In this message, the SS requests the establishment of a intra-frequency measurement, based on an estimation of cell 2's CPICH Ec/No. At the same time, reporting of cell 2's CPICH is commanded with the reporting criteria set to "periodic reporting" and reporting interval set to 16 seconds. The UE shall start transmitting MEASUREMENT REPORT messages at 16 seconds interval corresponding to the requested reporting event.

SS transmits PHYSICAL CHANNEL RECONFIGURATION message, triggering a switch of transport channels from DCH/DCH to RACH/FACH. After receiving this message, the UE shall reconfigure itself and replies with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message on RACH. SS acknowledges this message and the UE shall move to CELL_FACH state and read the system information messages. SS monitors the uplink to verify that no MEASUREMENT REPORT messages are received. In SYSTEM INFORMATION BLOCK TYPE 12 message, SS includes cell 3 into the neighbour cells monitoring list. IE "Intra-frequency reporting quantity for RACH Reporting" and IE "Maximum number of Reported cells on RACH" are also specified in this message. An event-triggered (event type 1a) reporting criterion is specified for intra-frequency measurements. The transmission strength of CPICH for cell 3 is increased until it exceeds the lower bound of the reporting range specified. SS then pages for the UE using PAGING TYPE 1 message. The UE shall respond with a CELL UPDATE message, which comprises CPICH Ec/No measurements for cell 1 and 3. Upon the receipt of CELL UPDATE message, SS replies with CELL UPDATE CONFIRM message on the downlink DCCH. This message does not change the physical resource nor allocate any new RNTI identities. The UE shall remain in CELL_FACH state. SS transmits PHYSICAL CHANNEL RECONFIGURATION message again, this time specifying dedicated physical resources for both uplink and downlink direction. The UE shall then send PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and return to CELL_DCH state. SS listens to the uplink DCCH for MEASUREMENT REPORT messages. SS verifies that all messages received pertain to the periodic measured value of cell 2's CPICH Ec/No value. UE shall not send any reports containing the measured values of cell 3.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in idle mode and test operator is asked to make an outgoing call.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	Uplink and downlink DPCH resources are allocated.
4	→		RRC CONNECTION SETUP COMPLETE	UE shall move to CELL_DCH state.
5	←		MEASUREMENT CONTROL	SS requests for measurement and reporting of cell 2's CPICH Ec/No value.
6	→		MEASUREMENT REPORT	UE shall send periodic report at 16 seconds interval. SS waits for 2 consecutive reports before proceeding to step 7.
7	←		PHYSICAL CHANNEL RECONFIGURATION	SS switches the physical resources to common physical channels.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall reconfigure its uplink and downlink channels before transiting to CELL_FACH state.
9	←		SYSTEM INFORMATION BLOCK TYPE 12	SS includes cell 3 into the monitored neighbour cell list. SS waits for 1 minutes and verifies that no MEASURE-MENT REPORT messages are received. Cell 3 is switched on, and SS adjusts the transmission power for CPICH such that its Ec/No falls into the report range specified.
10	←		PAGING TYPE 1	SS pages for UE using the assigned U-RNTI identity.
11	→		CELL UPDATE	UE shall transmit this message with measured results on RACH channels for cell 1 and 3 appended.
12	←		CELL UPDATE CONFIRM	No change in physical resource allocation and RNTI identities.
13	←		PHYSICAL CHANNEL RECONFIGURATION	Allocates dedicated physical channels.
14	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall transit to CELL_DCH state.
15	←		MEASUREMENT REPORT	UE shall continue to report cell 2's CPICH Ec/No value on a periodic basis.

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 12

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

RRC CONNECTION SETUP

Use the same message sub-type found in Clause 8.1 of TS34.108, which is entitled “Transition to CELL_DCH”.

MEASUREMENT CONTROL

Information Element	Value/Remark
Measurement Identity Number	5
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH Ec/No
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- CHOICE reporting cell	~~Not present~~ Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	
- CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 5
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to “Intra-frequency measured results list”
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 2~~it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it’s the same code for cell 2
- CPICH Ec/No	Check to see if this IE is present
- CPICH RSCP	Check to see if this IE is absent
- Pathloss	Check to see if this IE is absent
Event results	Check to see if this IE is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 7)

Use the same message sub-type found in Clause 8.1 of TS34.108, which is entitled “Packet to CELL_FACH from CELL_DCH in PS)”

SYSTEM INFORMATION BLOCK TYPE 12

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	6
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH Ec/No
- Intra-frequency measurement for RACH reporting	
- SFN-SFN observed time difference	No report
- Reporting quantity	CPICH Ec/No
- Maximum number of reported cells on RACH	Current cell + best neighbour
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameter required for each event	Only 1 reporting event is defined
- Intra-frequency event identity	1a
- Triggering condition	Monitored set cells
- Reporting range	10.0 dB
- Cells forbidden to affect reporting	Not present
- W	0.0
- Hysteresis	1.0 dB
- Threshold used frequency	Not Present
- Reporting deactivation threshold	7
- Replacement activation threshold	Not Present
- Time to trigger	0
- Amount of reporting	Infinity
- Reporting Interval	8 seconds
- Inter-frequency measurement system information	Not present
- Inter-system measurement system information	Not present
- Traffic volume measurement system information	Not present
- UE internal measurement system information	Not present

PAGING TYPE 1

Information Element	Value/Remarks
Page Record List - Page Record - CHOICE Paging originator - U-RNTI BCCH modification info	 UTRAN Originator Set to same U-RNTI value as assigned in the RRC CONNECTION SETUP message Not Present

CELL UPDATE

Information Element	Value/Remarks
U-RNTI Integrity check info AM_RLC error indication (for C-plane) AM_RLC error indication (for U-plane) START List ~~Hyper frame number~~ Cell update cause Protocol error info Measured results on RACH - Measurement result for current cell - CHOICE measurement quantity - CPICH Ec/No - Measurement results for monitored cells - SFN-SFN observed time difference - Primary CPICH info - Primary scrambling code - CHOICE measurement quantity - CPICH Ec/No Protocol error information	Check to see if same to value as in PAGING TYPE 1 message Check to see if it is absent Check to see if it is set to FALSE Check to see if it is set to FALSE Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE ~~Check to see if it is present~~ Check to see if it is set to "Paging Response" Check to see if it is absent or set to FALSE Check to see if set to CPICH Ec/No Check to see if it is within acceptable range Not Checked Check to see if the same as cell 3's code. Check to see if set to CPICH Ec/No Check to see if it is within acceptable range Check to see if it is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 13)

Use the same message sub-type found in Clause 8.1 of TS34.108, which is entitled "Packet to CELL_DCH from CELL_FACH in PS)"

MEASUREMENT REPORT (Step 15)

The contents of this message should be the same as in step 6.

8.4.1.5.5 Test Requirement

After step 5, the UE shall start to transmit MEASUREMENT REPORT messages at 16 seconds interval. The message shall contain the measured result of cell 2's CPICH Ec/No value.

After step 8, the UE shall not send any MEASUREMENT REPORT messages which report quantities requested in MEASUREMENT CONTROL messages in step 5.

After step 10, the UE shall respond to the paging and transmit a CELL UPDATE message. In this message, the measured values CPICH Ec/No for cell 1 and cell 3 shall be included.

After step 14, the UE shall revert to the original measurement reporting mechanism and send MEASUREMENT REPORT messages containing estimates for cell 2's CPICH Ec/No value. The UE shall not transmit any MEASUREMENT REPORT messages, which indicate measurement quantities of cell 3.

8.4.1.6 Measurement Control and Report: Inter-frequency measurement for transition from CELL_DCH to CELL_FACH state

8.4.1.6.1 Definition

8.4.1.6.2 Conformance requirement

When transiting from CELL_DCH state to CELL_FACH state, the UE shall terminate all reporting activities related to inter-frequency measurements. After reaching CELL_FACH state, the UE shall begin to monitor neighbouring cells listed in the IE“inter-frequency cell info” of the system information type 12 message.

Reference

3GPP TS 25.331, clause 8.4.1.7

8.4.1.6.3 Test Purpose

To verify that UE ceases to transmit MEASUREMENT REPORT messages when moving from CELL_DCH state to CELL_FACH, even if it has detected that reporting criteria have been satisfied in CELL_FACH state. To verify that the UE extracts information for inter-frequency measurement from system information messages after reaching CELL_FACH state.

8.4.1.6.4 Method of test

Initial Condition

SS: 2 cells – Both cell 1 and cell 2 are active. Cell 2 is allocated a frequency which is 1 UARFCN away from cell 1 in both uplink and downlink directions. The applicable radio conditions for cell 1 and cell 2 are as follow:

	Cell 1	Cell 2
UARFCN (N_u and N_d)	Channel 1	Channel 2
CPICH RSCP	-75 dBm	-85 dBm
$Q_{rxlevmin}$	-90 dBm	-90 dBm
S	15	5

UE: idle state and camped onto cell 1.

Test Procedure

The UE is initially in idle mode. SS pages the UE with the cause set to terminating call for one of the supported traffic classes. The SYSTEM INFORMATION TYPE 12 message is modified so that no measurement tasks are to be performed by the UE. The UE shall respond to the paging by sending a RRC CONNECTION REQUEST message on the uplink CCCH carried by RACH. Upon receiving this message, SS allocates dedicated DPCH physical channels to the UE by transmitting RRC CONNECTION SETUP message. The UE shall reply by transmitting a RRC CONNECTION SETUP COMPLETE message. SS then checks the IE”Measurement Capability” of this message and verifies that the UE is capable of performing inter-frequency measurements under FDD mode. After the confirmation of the UE inter-frequency measurement ability, SS transmits PHYSICAL CHANNEL RECONFIGURATION message. In this message, information related to the radio bearers and uplink/downlink radio resources remain unchanged as compared to the equivalent IEs found in RRC CONNECTION SETUP message. The only difference concerns IE”DPCH compressed mode info”, which indicates that the UE shall apply the given parameters for compressed mode operations. The UE shall return PHYSICAL CHANNEL RECONFIGURATION COMPLETE message to acknowledge that compressed mode mechanism can be exercised.

SS then sends a MEASUREMENT CONTROL message to the UE, specifying that cell 2 be the measurement object for inter-frequency type measurement. The periodic reporting criterion is selected for this measurement. SS waits for 8 seconds to allow the periodic timer to expire. The UE shall send a MEASUREMENT REPORT message containing measured result of cell 2’s reporting quantity (CPICH Ec/No). SS transmits PHYSICAL CHANNEL RECONFIGURATION message again, requesting the UE to switch from uplink and downlink DPCH to common physical channels. The UE shall return PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then move to CELL_FACH state. SS waits for another 8 seconds to detect any possible uplink MEASUREMENT REPORT messages as a result of inter-frequency measurements. SS then increases the transmission power of cell 2 by 20 dB. SS waits for [x]

seconds to allow the UE to perform cell re-selection. The UE shall transmit a CELL UPDATE message on the uplink CCCH of cell 2, specifying the cause as "cell re-selection". SS replies with CELL UPDATE CONFIRM message on the downlink DCCH.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in idle mode and camped onto cell 1. SYSTEM INFORMATION BLOCK TYPE 12 is redefined, disabling all measurement and reporting activities.
2		←	PAGING TYPE 1	SS pages UE with cause set terminating call for a supported traffic class
3		→	RRC CONNECTION REQUEST	
4		←	RRC CONNECTION SETUP	Uplink and downlink DPCH resources are allocated.
5		→	RRC CONNECTION SETUP COMPLETE	UE shall indicate that it's capable of performing inter-frequency measurement for FDD mode.
6		←	PHYSICAL CHANNEL RECONFIGURATION	SS instructs UE to begin compressed mode operation.
7		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall enter CELL_DCH state.
8		←	MEASUREMENT CONTROL	SS indicates that cell 2 be monitored. SS waits for 8 seconds.
9		→	MEASUREMENT REPORT	UE shall transmit this message to report cell 2's CPICH Ec/No value.
10		←	PHYSICAL CHANNEL RECONFIGURATION	SS changes the physical channel allocation to common channel configuration.
11		→	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall moves to CELL_FACH state.
12				SS waits for 8 seconds to verify that no MEASUREMENT REPORT messages are detected.
13				SS changes SYSTEM INFORMATION BLOCK TYPE 12 message to request cell 2 to be included into neighbour cell list for inter-frequency measurements.
14				SS increases the transmission power of cell 2 by 20 dB, and then waits for [x] seconds to allow the UE to re-select to a new cell.
15		→	CELL UPDATE	UE shall detect that cell 2 has become the best cell and then perform cell re-selection procedure.
16		←	CELL UPDATE CONFIRM	

Notes:

The value [x] seconds is TBD, after the cell re-selection duration is determined from TS 25.304.

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 12

Information Element	Value/Remark
References to other system information blocks	Not Present
FACH measurement occasion info	
- k_UTRA	2
- Other RAT present in inter-system cell info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	Not Present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE Internal measurement system information	Not Present

PAGING TYPE 1

Information Element	Value/Remarks
Paging Record List	
- Paging Record	
- CHOICE Paging originator	CN Originator
- Paging cause	Terminating call for one of the supported traffic classes
- CN domain identity	CS Domain
- CHOICE UE Identity	IMSI (DS-41) or IMSI(GSM-MAP)
- IMSI (DS-41) or IMSI(GSM-MAP)	Set to the same digits as in USIM card
BCCH modification info	Not Present

RRC CONNECTION SETUP

Use the same message sub-type found in Clause 9 of TS34.108, which is entitled “Transition to CELL_DCH”

RRC CONNECTION SETUP COMPLETE

Information Element	Value/Remarks
START List	
- CN Domain Identity	Check to see if it is present for all supported CN domains
- START	Check to see if it is present for all supported CN domains
UE Radio access capability	
- ICS Version	Checked to see if set to ‘R99’
- PDCP capability	Not checked.
- RLC capability	Not checked.
- Transport channel capability	Not checked.
- RF capability	Not checked.
- Physical channel capability	Not checked.
- UE multi-mode/multi-RAT capability	Not checked.
- Security capability	Not checked.
- LCS capability	Not checked.
- Measurement capability	
- FDD measurements DL	Checked to see if set to ‘TRUE’
- TDD measurements DL	Not checked.
- GSM measurements DL	Not checked.
- GSM 900 DL	Not checked.
- DCS 1800 DL	Not checked.
- GSM 1900 DL	Not checked.
- Multi-carrier measurement DL	Not checked.
- FDD measurements UL	Checked to see if set to ‘TRUE’
- TDD measurements UL	Not checked.
- GSM measurements UL	Not checked.
- GSM 900 UL	Not checked.
- DCS 1800 UL	Not checked.
- GSM 1900 UL	Not checked.
- Multi-carrier measurement UL	Not checked.
UE system specific capability	Not checked.

PHYSICAL CHANNEL RECONFIGURATION (Step 6)

Use the same message sub-type found in Clause 9 of TS34.108, which is entitled “(Packet to CELL_DCH from CELL_DCH in PS”, with the following exceptions in the IE(s) concerned:

Information Element	Value/Remarks
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE Mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- DL rate matching restriction information	Not Present
- Spreading factor	Refer to the parameter set in TS 34.108
- Fixed or flexible position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits (SF=128, 256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0

MEASUREMENT CONTROL (Step 8)

Information Element	Value/Remark
Measurement Identity Number	15
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 2
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 2
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	~~Not present~~
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	8 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 9)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 15
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to “Inter-frequency measured results list”
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 2
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 2
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 2~~it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 2
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Event Results	Check to see if it is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 10)

Use the same message sub-type found in Clause 9 of TS34.108, which is entitled "(Packet to CELL_FACH from CELL_DCH in PS".

CELL UPDATE

Information Element	Value/Remarks
U-RNTI	Check to see if same to value as in RRC CONNECTION SETUP message
Integrity check info	Check to see if it is absent
AM_RLC error indication (for C-plane)	Check to see if it is set to FALSE
AM_RLC error indication (for U-plane)	Check to see if it is set to FALSE
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
~~Hyper frame number~~	~~Check to see if it is present~~
Cell update cause	Check to see if it is set to "Cell Reselection"
Protocol error info	Check to see if it is absent or set to FALSE
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE CONFIRM

Use the same message sub-type found in Clause 9 of TS34.108.

8.4.1.6.5 Test Requirement

After step 4 the UE shall transmit RRC CONNECTION SETUP COMPLETE message with the IE"Measurement capability", indicating that both uplink and downlink inter-frequency measurements for FDD mode are supported.

After step 8 the UE shall transmit MEASUREMENT REPORT message to report cell 2's CPICH Ec/No value.

After step 11 the UE shall stop sending MEASUREMENT REPORT messages, which contain inter-frequency measured results for cell 2's CPICH Ec/No value.

After step 14 the UE shall transmit CELL UPDATE message to inform that a cell reselection to cell 2 has occurred.

8.4.1.7 Measurement Control and Report: Intra-frequency measurement for transition from CELL_FACH to CELL_DCH state

8.4.1.7.1 Definition

8.4.1.7.2 Conformance requirement

When transiting from CELL_FACH state to CELL_DCH state, the UE shall resume intra-frequency measurement if it has previously stored such a measurement context in CELL_DCH state. If the measurement context indicates reporting in CELL_DCH state, the UE shall re-start the associated reporting activities. In the case when the UE is not assigned any measurement tasks, it shall monitor the list of neighbouring cells stated in system information messages. It shall transmit MEASUREMENT REPORT messages when the reporting criteria (if specified in system information messages) are met. When in CELL_DCH state, the UE shall override existing measurement and reporting contexts extracted from system information messages, if a MEASUREMENT CONTROL message is received. The UE shall then apply the new measurement and reporting parameters accordingly. If the UE has performed a cell reselection whilst out of CELL_DCH state, the UE shall not re-start intra-frequency measurement previously designated to be resumed in CELL_DCH state.

Reference

3GPP TS 25.331, clause 8.4.1.8

8.4.1.7.3 Test Purpose

To confirm that UE resumes intra-frequency measurement and reporting when it enters CELL_DCH state from CELL_FACH state, if such a condition exists before entering CELL_DCH state. To confirm that the UE continues to monitor the neighbour cells intra-frequency measurement list found in system information messages, if no previous assigned measurement is present. To confirm that the UE transmits MEASUREMENT REPORT messages if reporting conditions stated in system information messages have been satisfied. To confirm that a subsequent MEASUREMENT CONTROL message received in CELL_DCH state

8.4.1.7.4 Method of test

Initial Condition

System Simulator: 3 cells –All 3 are all active. The transmission power (RSCP) for CPICH of the 3 cells are as follow: cell 1 (-40dBm), cell 2 (-55dBm) and cell 3 (-70dBm).

UE: CELL_FACH in cell 1.

Test Procedure

The UE is brought to CELL_FACH state, after the test operator has successfully initiated a packet-switched data call. The SYSTEM INFORMATION BLOCK TYPE 12 message is changed with respect to the default message contents, specifying that cell 2 is to be included in the neighbouring cell list for intra-frequency measurement. Event 1e is selected in IE"Intra-frequency measurement reporting criteria".

SS send a PHYSICAL CHANNEL RECONFIGURATION message to UE, allocating dedicated physical channels on both uplink and downlink direction. Upon receiving such a message, the UE shall return PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and move to CELL_DCH state. The UE shall send MEASUREMENT REPORT messages to indicate that the measured result of cell 2, as the measurement quantity has exceeded the threshold value in system information message. After receiving this message, SS transmits MEASUREMENT CONTROL message in which it specifies that intra-frequency measurement for cell 3 shall be performed. The reporting criteria are the same as in SYSTEM INFORMATION BLOCK TYPE 12 message, except that the reporting threshold is lowered. After receiving such a message, the UE shall transmit another MEASUREMENT REPORT message. SS verifies that only measurement reading for cell 3 is included and no IEs shall be present, which pertain to measurement quantity in cell 2.

Next, SS sends PHYSICAL CHANNEL RECONFIGURATION message to UE. In this message, the physical channel resources are switched to common physical channels – PRACH (RACH) for the uplink and S-CCPCH (FACH) for the downlink. UE shall reply with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE and transits to CELL_FACH. SS checks the uplink RACH to confirm that no MEASUREMENT REPORT messages are received. SS then transmits another MEASUREMENT CONTROL message. The key parameters employed are: measurement type = 'intra-frequency measurement', measurement object = 'cell 2', reporting criteria = 'periodic reporting', measurement validity = 'resume', UE state for reporting = 'CELL_DCH'. SS waits for 10 seconds before sending a PHYSICAL CHANNEL RECONFIGURATION message, comprising DPDCH physical channels. UE shall then return to CELL_DCH state, start to monitor the neighbour cell specified by the SS while the UE was in CELL_FACH state. The UE shall resume periodic reporting of cell 2's CPICH RSCP measured results by sending MEASUREMENT REPORT messages. Following the reception of the MEASUREMENT REPORT message, SS commands the UE to stop performing measurements and generation of reports for cell 2. SS then verifies that no MEASUREMENT REPORT messages are detected.

In the next sequence, SS dispatches a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH. In this message, common physical channel resources are assigned to the UE. The UE shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then transit to CELL_FACH state. Then SS sends a MEASUREMENT CONTROL message, with the content identical to the previous message of the type transmitted in step 10. This effectively signifies that the UE shall re-start the intra-frequency measurement and reporting activities related to cell 2, when it subsequently manages to return to CELL_DCH state. Following this, SS increases the P-CPICH RSCP of cell 3 to –45dBm and shortly after this, stops the transmission of all downlink physical channel of cell 1. SS then waits for T305 to expire. The UE shall discover a "out-of-service" condition and initiate a cell re-selection procedure. This can be verified by the SS receiving a CELL UPDATE message on the uplink CCCH, with the "cell update cause" IE set to "cell reselection". SS sends a PHYSICAL CHANNEL RECONFIGURATION message on the downlink DCCH, assigning DPCH channel in both uplink and downlink directions. The UE shall respond with a

PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then return to CELL_FACH state. SS checks that the UE does not generate any MEASUREMENT REPORT messages on the uplink DCCH.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_FACH after having successfully connected a packet-switched data call. SYSTEM INFORMATION TYPE BLOCK TYPE 12 message is changed according to the descriptions in Specific Message Contents.
2	←		PHYSICAL CHANNEL RECONFIGURATION	Allocates DPDCH physical channels.
3	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_DCH state.
4	→		MEASUREMENT REPORT	Reports cell 2's RSCP value.
5	←		MEASUREMENT CONTROL	Specifies cell 3 as the measurement object for intra-frequency measurement. The reporting criteria is the same as defined in SYSTEM INFORMATION BLOCK TYPE 12 message, with the exception that threshold for event 1e is lowered.
6	→		MEASUREMENT REPORT	UE shall report the estimated value for cell 3's CPICH RSCP reading only.
7	←		PHYSICAL CHANNEL RECONFIGURATION	Allocates PRACH and S-CCPCH physical channels.
8	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_FACH state.
9				SS checks that no MEASUREMENT REPORT messages are sent by UE.
10	←		MEASUREMENT CONTROL	SS indicates that intra-frequency measurement and reporting for cell 2 be resumed if the UE subsequently transits to CELL_DCH state.
11	←		PHYSICAL CHANNEL RECONFIGURATION	SS waits for 10 seconds before sending this message. DPCH physical channels are assigned to the UE in this message.
12	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall return to CELL_DCH state.
13	→		MEASUREMENT REPORT	UE begins to report cell 2's measured results again.
14	←		MEASUREMENT CONTROL	Terminate all the intra-frequency measurement activity related to cell 2. SS checks that no more MEASUREMENT REPORT messages are sent by the UE.
15	←		PHYSICAL CHANNEL RECONFIGURATION	Allocates PRACH and S-CCPCH physical channels.
16	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall move to CELL_FACH state.
17	←		MEASUREMENT CONTROL	Message is the same as in step 10
18				SS increases the transmission power of cell 3 (P-CPICH RSCP is raised to –45dBm) and switches off all downlink transmissions for cell 1. SS then waits until T305 expires.
19	→		CELL UPDATE	UE shall re-selects to cell 2 and then perform a cell update procedure.

20	←	CELL UPDATE CONFIRM	UE shall stay in CELL_FACH state.
21	→	PHYSICAL CHANNEL RECONFIGURATION	DPCH physical channels are assigned to the UE in this message.
22	←	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE shall return to CELL_DCH state.
23			SS checks that no MEASUREMENT REPORT messages are received on uplink DCCH.

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 12

Information Element	Value/Remark
Reference to other system information blocks	Not Present
FACH measurement occasion info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	
- Intra-frequency measurement identity number	10
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -115dBm
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH Ec/No
- Intra-frequency measurement for RACH reporting	Not Present
- Maximum number of reported cells on RACH	No report
- Reporting information for state CELL_DCH	
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- CHOICE report criteria	Intra-frequency measurement reporting criteria
- Parameter required for each event	
- Intra-frequency event identity	1e
- Triggering condition	Monitored set cells
- Reporting range	Not present
- Cells forbidden to affect reporting	Not present
- W	Not present
- Hysteresis	Not Present
- Threshold used frequency	-60dBm
- Reporting deactivation threshold	Not present
- Replacement activation threshold	Not present
- Time to trigger	0
- Amount of reporting	Infinity
- Reporting Interval	16 seconds
- Inter-frequency measurement system information	Not Present
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 2)

Use the same message sub-type found in Clause 8.1 of TS34.108, which is entitled “Packet to CELL_DCH from CELL_FACH in PS”

MEASUREMENT REPORT (Step 4)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 10
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 2~~it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if it's set to 'Intra-frequency measurement event results'
- Intra-frequency event identity	Check to see if this IE is set to '1e'
- Cell measured event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it's the same code for cell 2

MEASUREMENT CONTROL (Step 5)

Information Element	Value/Remark
Measurement Identity Number	11
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- Measurement validity	Not present
- CHOICE report criteria	Intra-frequency measurement criteria
- Parameters required for each event	
- Intra-frequency event identity	1e
- Triggering condition	Monitored set cells
- Reporting Range	Not Present
- Cells forbidden to affect Reporting range	Not Present
- Primary CPICH Info	
- Primary Scrambling Code	Set to the same scrambling code for cell 3
- W	Not Present
- Hysteresis	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Reporting Threshold	-90dBm
- Time to Trigger	0
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 6)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 11
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to “Intra-frequency measured results list”
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 3~~it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it’s the same code for cell 3
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if it’s set to ‘Intra-frequency measurement event results’
- Intra-frequency event identity	Check to see if this IE is set to ‘1e’
- Cell measured event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it’s the same code for cell 3

PHYSICAL CHANNEL RECONFIGURATION (Step 7 and 15)

Use the same message sub-type found in Clause 8.1 of TS34.108, which is entitled “Packet to CELL_FACH from CELL_DCH in PS”

MEASUREMENT CONTROL (Step 10 and 17)

Information Element	Value/Remark
Measurement Identity Number	12
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Intra-frequency measurement
- Intra-frequency cell info list	
- Removed intra-frequency info list	Not Present
- New intra-frequency info list	
- Intra-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Intra-frequency measurement quantity	
- Filter Coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell identity	FALSE
- CPICH Ec/No	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored set cells	
- SFN-SFN observed time difference	No report
- Cell identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for detected cells	Not present
- Reporting cell status	Not present
- Measurement validity	Resume
- UE state	CELL_DCH
- CHOICE report criteria	Intra-frequency measurement criteria
- Parameters required for each event	
- Intra-frequency event identity	1e
- Triggering condition	Monitored set cells
- Reporting Range	Not Present
- Cells forbidden to affect Reporting range	Not Present
- Primary CPICH Info	
- Primary Scrambling Code	Set to the same scrambling code for cell 2
- W	Not Present
- Hysteresis	Not Present
- Reporting deactivation threshold	Not Present
- Replacement activation threshold	Not Present
- Reporting Threshold	-65dBm
- Time to Trigger	0
- Amount of reporting	Infinity
- Reporting interval	16 seconds
- Reporting cell status	~~Not Present~~
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
DPCH compressed mode status info	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 11 and 21)

Same as in step 2

MEASUREMENT REPORT (Step 13)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 12
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to "Intra-frequency measured results list"
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 2~~it is absent
- SFN-SFN observed time difference	Check to see if this IE is absent
- CFN-SFN observed time difference	Check to see if this IE is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if it's the same code for cell 2
- CPICH Ec/No	Check to see if this IE is absent
- CPICH RSCP	Check to see if this IE is present
- Pathloss	Check to see if this IE is absent
Event Results	
- CHOICE event result	Check to see if it's set to 'Intra-frequency measurement event results'
- Intra-frequency event identity	Check to see if this IE is set to '1e'
- Cell measured event results	
- Primary CPICH info	
- Primary scrambling code	Check to see if it's the same code for cell 2

MEASUREMENT CONTROL (Step 14)

Information Element	Value/Remarks
Measurement Identity Number	12
Measurement Command	Release
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE Measurement type	Not Present
DPCH compressed mode status info	Not Present

CELL UPDATE (Step 21)

Information Element	Value/Remarks
U-RNTI	
- SRNC Identity	Check to see if set to '0000 0000 0000 0001'
- S-RNTI	Check to see if set to '0000 0000 0000 0000 0000 0001'
Integrity check info	Not checked
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
AM_RLC error indicator (for C-plane)	Check to see if set to 'FALSE'
AM_RLC error indicator (for U-plane)	Check to see if set to 'FALSE'
Cell Update Cause	Check to see if set to 'Cell Re-selection'
Protocol error indicator	Check to see if it is absent or set to 'FALSE'
Measured results on RACH	Check to see if it is absent
Protocol error information	Check to see if it is absent

CELL UPDATE (Step 21)

Use the default message content of the same message type in Annex A.

8.4.1.7.5 Test Requirement

After step 3 the UE shall report cell 2's CPICH RSCP value by transmitting a MEASUREMENT REPORT message.

After step 5 the UE shall delete all measurement and reporting contexts obtained from system information messages. However, it shall transmit a MEASUREMENT REPORT message containing measured results of cell 3's CPICH RSCP value only.

After step 8 the UE shall stop intra-frequency measurement reporting assigned previously in the MEASUREMENT CONTROL message received in step 5.

After step 12 the UE shall resume the measurement and reporting activities as specified in MEASUREMENT CONTROL message received in step 10. The UE shall transmit MEASUREMENT REPORT message, containing measured results of cell 2's CPICH RSCP value.

After step 14 the UE shall stop all measurement activities pertaining to cell 2, no MEASUREMENT REPORT messages shall be detectable by the SS in the uplink DCCH.

After step 19 the UE shall re-select to cell 3 and initiate a cell update procedure. SS shall receive a CELL UPDATE message on the uplink CCCH of cell 3, with the “cell update cause” IE stated as “cell re-selection”.

After step 22 the UE shall not start to perform measurement for cell 2, no MEASUREMENT REPORT messages shall be detectable by the SS in the uplink DCCH.

8.4.1.8 Measurement Control and Report: Inter-frequency measurement for transition from CELL_FACH to CELL_DCH state

8.4.1.8.1 Definition

8.4.1.8.2 Conformance requirement

When transiting from CELL_FACH state to CELL_DCH state, the UE shall stop monitoring the list of inter-frequency neighbour cells indicated in system information messages. If the UE has a previously stored inter-frequency measurement context marked as ‘resume’, it shall reinstate the suspended measurement and associated reporting activities after it has re-entered CELL_DCH state. The UE shall be able to start/terminate inter-frequency measurement by decoding the “DPCH compressed mode status info” IE in MEASUREMENT CONTROL messages.

Reference

3GPP TS 25.331 clause 8.4.1.8, 8.5.7.6.13

8.4.1.8.3 Test Purpose

To confirm that the UE erases all inter-frequency measurement contexts used in CELL_FACH state, when it moves to CELL_DCH. To confirm that the UE resumes inter-frequency measurements and reporting, which was assigned prior to CELL_FACH state, after it moves to CELL_DCH state. To confirm that the UE resumes inter-frequency measurement and reporting activities after it has received a MEASUREMENT CONTROL message specifying that a stored compressed mode pattern sequence be re-activated.

8.4.1.8.4 Method of test

Initial Condition

SS: 3 cells – All 3 cells are active and the applicable radio conditions are stated in the table below:

	Cell 1	Cell 2	Cell 3
UARFCN (N_u and N_d)	Channel 1	Channel 2	Channel 2
CPICH RSCP	-60 dBm	-65 dBm	-75 dBm
$Q_{rxlevmin}$	-90 dBm	-90 dBm	-90 dBm
S	30	25	15

UE: CELL_FACH in cell 1 after an incoming packet-switched data call is successfully established.

Test Procedure

The UE is in CELL_FACH state after a successful connection, triggered by an incoming packet-switched data call. SS modifies the content of SYSTEM INFORMATION BLOCK TYPE 12 message, which indicates that cell 2 shall be included in the list of neighbouring cells to be monitored for inter-frequency measurements. Next, SS transmits MEASUREMENT CONTROL message to request the UE to execute an inter-frequency measurement for cell 3. The parameters of the reporting criteria are as follow: event-triggered with event identity =’2c’, threshold for non-used frequency = ‘-80 dBm’, hysteresis = ‘1.0dB’, time to trigger = ‘10 seconds’, amount of reporting = ‘1’ and reporting interval = ‘0’. In the same message, IE”Measurement validity” is set to ‘resume’ and “UE state for reporting” is assigned the value ‘CELL_DCH’.

SS sends PHYSICAL CHANNEL RECONFIGURATION message to allocate dedicated physical channels to the UE. Simultaneously, SS uses this message to command UE to start applying compressed mode mechanism for DPCH. The UE shall reply with PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and then move to CELL_DCH state. SS waits for 10 seconds. The UE shall transmit MEASUREMENT REPORT message, containing the selected frequency quality estimate (in the case CPICH Ec/No) of cell 3. SS verifies that this message does not contain measured results for cell 2. After sending this message, the UE shall not transmit any more MEASUREMENT REPORT messages.

SS modifies the reporting criteria by transmitting a MEASUREMENT CONTROL message on the downlink DCCH using AM-RLC. In this message, SS commands the UE to perform inter-frequency measurement and reporting for cell 3 using periodic reporting mechanism. Upon receiving this message, the UE shall transmit MEASUREMENT REPORT message at 2 seconds interval. In the next sequence, SS transmits a PHYSICAL CHANNEL RECONFIGURATION message and deactivates the compressed mode pattern sequence with “TGPSI” IE set to 1. The UE shall respond by sending PHYSICAL CHANNEL RECONFIGURATION COMPLETE message and also stop the periodic reporting activities. Following this, SS sends a MEASUREMENT CONTROL message and re-activates the compressed mode pattern sequence by using the “DPCH compressed mode status” IE. SS confirms that the UE has reconfigured itself to start measurement reporting again. The SS shall be able to receive MEASUREMENT REPORT messages continuously at 2 seconds interval.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_FACH state after establishing an incoming packet-switched data call. SS modifies SYSTEM INFORMATION BLOCK TYPE 12 to include cell 2 into the neighbour cell list for inter-frequency measurements.
2	←		MEASUREMENT CONTROL	SS specifies inter-frequency measurement and reporting parameters for cell 3.
3	←		PHYSICAL CHANNEL RECONFIGURATION	SS allocates DPCH physical channels and specifies compressed mode parameters
4	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE moves to CELL_DCH state.
5	→		MEASUREMENT REPORT	UE shall resume inter-frequency measurement task for cell 3 and transmit this message to report the measured CPICH Ec/No value
6	←		MEASUREMENT CONTROL	SS changes the reporting criteria for cell 3 to 'periodic reporting'
7	→		MEASUREMENT REPORT	UE shall begin to transmit this message at 2 seconds interval.
8	←		PHYSICAL CHANNEL RECONFIGURATION	SS deactivates the currently used pattern sequence for compressed mode operation.
9	→		PHYSICAL CHANNEL RECONFIGURATION COMPLETE	UE stays in CELL_DCH state. SS waits for 5 seconds and verifies that no MEASUREMENT REPORT messages are received.
10	←		MEASUREMENT CONTROL	SS activates the pattern sequence stored by the UE.
11	→		MEASUREMENT REPORT	SS checks that MEASURE-MENT REPORT messages are received at 2 seconds interval.

Specific Message Content

SYSTEM INFORMATION BLOCK TYPE 12 (Step 1)

Information Element	Value/Remark
References to other system information blocks	Not Present
FACH measurement occasion info	
- k_UTRA	2
- Other RAT present in inter-system cell info	Not Present
Measurement control system information	
- Intra-frequency measurement system information	Not Present
- Inter-frequency measurement system information	
- Inter-frequency measurement identity number	15
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 2
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 2
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Cell selection and Re-selection info for SIB11/12	
- $Qoffset_{s,n}$	0dB
- Maximum allowed UL TX power	0dBm
- HCS neighbouring cell information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -90dBm
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency measurement reporting criteria	
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not Present
- W used frequency	Not Present
- Hysteresis	1.0dB
- Time to trigger	10 sec
- Amount of reporting	1
- Reporting interval	0
- Parameters required for each non used frequency	
- Threshold non-used frequency	-80dBm
- W non-used frequency	0.0
- Inter-system measurement system information	Not Present
- Traffic volume measurement system information	Not Present
- UE internal measurement system information	Not Present

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity Number	14
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 3
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 3
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	Not present
- Measurement validity	
- Resume/Release	Resume
- UE State	CELL_DCH
- Inter-frequency set update	Not Present
- CHOICE report criteria	Inter-frequency measurement reporting criteria
- Parameters required for each event	
- Inter-frequency event identity	2c
- Threshold used frequency	Not Present
- W used frequency	Not Present
- Hysteresis	0
- Time to trigger	10 seconds
- Amount of reporting	1
- Reporting Interval	0
- Reporting cell status	Not Present
- Parameters required for each non-used frequency	
- Threshold non used frequency	-80 dBm
- W non-used frequency	0.0
DPCH compressed mode status info	Not Present

PHYSICAL CHANNEL RECONFIGURATION (Step 3)

Use the same message sub-type found in Clause 9 of TS34.108, which is entitled “(Packet to CELL_DCH from CELL_FACH in PS”, with the following exceptions in the IE(s) concerned:

Information Element	Value/Remarks
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE Mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (Single)
- DL rate matching restriction information	Not Present
- Spreading factor	Refer to the parameter set in TS 34.108
- Fixed or flexible position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits (SF=128, 256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	F/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRAfter1	1.0
- DeltaSIR2	Not Present
- TX Diversity Mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0

MEASUREMENT REPORT (Step 5)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 14
Measured ~~ment~~ Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 3
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 3
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if ~~set to the id of cell 3~~it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 3
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Event Results	
- CHOICE event result	Inter-frequency event results
- Inter-frequency event identity	Check to see if it's set to '2c'
- Inter-frequency cells	
- Frequency Info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 3
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 3
- Non frequency related measurement event results	
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 3

MEASUREMENT CONTROL (Step 6)

Information Element	Value/Remark
Measurement Identity Number	14
Measurement Command	Modify
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 3
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 3
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 3
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 3
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	1
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/No	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	~~Not present~~
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not Present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	2000 milliseconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 7, 11)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 14
Measured Results	
- CHOICE measurement	Check to see if set to “Inter-frequency measured results list”
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 3
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 3
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if set to the id of cell 3
- SFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 3
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
Event Results	Check to see if it is absent

PHYSICAL CHANNEL RECONFIGURATION (Step 8)

Use the same message transmitted in step 3 with the following modifications:

Information Element	Value/Remarks
Downlink information common for all radio links - DPCH compressed mode info - TGPSI - TGPS Status Flag	 1 Inactive

MEASUREMENT CONTROL (Step 10)

Information Element	Value/Remark
Measurement Identity Number	Any number except 14
Measurement Command	Release
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Not Present
DPCH compressed mode status info - Transmission gap pattern sequence - TGPSI - TGPS Flag	 1 Active

8.4.1.8.5 Test Requirement

After step 4 the UE shall transmit a MEASUREMENT REPORT message, containing the measured results for cell 3's CPICH Ec/No value. The UE shall not transmit any messages pertaining to cell 2's measurements.

After step 6 the UE shall send MEASUREMENT REPORT messages, which comprises cell 3's CPICH Ec/No measured value at 2 seconds interval. The "Event results" IE shall be omitted in these messages.

After step 8 the UE shall not transmit any MEASUREMENT REPORT messages.

After step 10 the UE shall resume the transmission of MEASUREMENT REPORT messages with identical contents as in those received after step 6.

8.4.1.9 Measurement Control and Report: Unsupported measurement in the UE

8.4.1.9.1 Definition

8.4.1.9.2 Conformance requirement

If the UTRAN indicates the UE to perform a measurement that is not supported in the UE, the UE shall keep the measurement configuration. Then the UE shall transmit a MEASUREMENT CONTROL FAILURE message on the DCCH using AM RLC.

Reference

3GPP TS25.331 clause 8.4.1.

8.4.1.9.3 Test purpose

To confirm that the UE transmits a MEASUREMENT CONTROL FAILURE message, with the value "unsupported measurement" specified in IE" failure cause" when the SS commanded the UE to perform an unsupported measurement by sending a MEASUREMENT CONTROL message.

8.4.1.9.4 Method of test

Initial Condition

System Simulator : 1cell

UE : CELL_DCH

[Editor's note : It is assumed in this test that the UE under test does not possess any inter-system measurement capability. The mandatory type(s) of measurement capability that should be implemented by the UE is to be discussed]

Test Procedure

The UE is in the CELL_DCH state. The SS transmits a MEASUREMEN CONTROL message which includes parameters (e.g. Measurement identity number : 2 , measurement command : Setup , measurement type: inter-system measurements, measurement reporting mode: unacknowledged and periodical reporting, measurement object: inter-system cell information, measurement quantity: Signal strength, reporting quantity: RSSI on BCCH carrier). As the UE under test does not support inter-system measurement, it shall transmit a MEASUREMENT CONTROL FAILURE message on the uplink DCCH using AM RLC.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is in the CELL_DCH state.
2	←		MEASUREMENT CONTROL	Including the parameters (e.g. Measurement identity number : 2 , measurement command : Setup , measurement type: inter-system measurements, measurement reporting mode: unacknowledged and periodical reporting, measurement object: inter-system cell information, measurement quantity: Signal strength, reporting quantity: RSSI on BCCH carrier).
3	→		MEASUREMENT CONTROL FAILURE	Which is set to “unsupported measurement” in IE“ failure cause”.

Specific Message Content

MEASUREMENT CONTROL

Information Element	Value/Remark
Measurement Identity Number	2
Measurement Command	Setup
Measurement Reporting Mode	Unacknowledged mode
Additional measurements list	Not Present
CHOICE measurement type	Inter-system measurement
- Inter-system cell info list	
- Removed inter-system cells	Not Present
- New inter-system cells	1
- Inter-system cell id	
- CHOICE *Radio Access Technology*	GSM
- $Qoffset_{s,n}$	Not Present
- HCS Neighbouring Cell Information	Not Present
- Qqualmin, Qrxlevmin	-20dB, -90dBm
- Maximum allowed UL TX power	Set to the maximum allowed by UE RF power class
- BSIC	Set to the BSIC code of cell 2
- BSIC ARFCN	Set to the ARFCN assigned to cell 2
- Output power	Not Present
- Inter-system measurement quantity	
- CHOICE *reporting criteria*	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-system reporting quantity	
- UTRA Carrier RSSI	TRUE
- Frequency quality estimate	FALSE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	FALSE
- CPICH Ec/N0	FALSE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting Cell Status	~~Not Present~~
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- CHOICE Report Criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting Interval	32 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT CONTROL FAILURE

Information Element	Value/Remarks
Failure cause	To check if it is set to “Unsupported measurement”

8.4.1.9.4 Test requirement

After step 2 the UE shall identify the unsupported measurement element in the MEASUREMENT CONTROL message and transmit a MEASUREMENT CONTROL FAILURE. In this message, the value “unsupported measurement” shall be specified in IE” failure cause”.

8.4.1.10 Measurement Control and Report: Failure (Invalid Message Reception)

8.4.1.10.1 Definition

8.4.1.10.2 Conformance requirement

When the UE received a MEASUREMENT CONTROL message containing an unexpected conditional IE, it shall reply with a MEASUREMENT CONTROL FAILURE message stating the appropriate protocol error information. It shall maintain the monitoring and measurement reporting mechanism as in before the MEASUREMENT CONTROL message has been received.

Reference

3GPP TS 25.331 clause 8.4.1.9

8.4.1.10.3 Test Purpose

To confirm that the UE does not change its current monitoring and measurement settings after it has received an illegal MEASUREMENT CONTROL message, which contains an unexpected IE error. To confirm that the UE resume its normal measurement reporting operations after transmitting MEASUREMENT CONTROL FAILURE message to the SS.

8.4.1.10.4 Method of test

Initial Condition

System Simulator : 1 cell.

UE : CELL_DCH

Test Procedure

The UE is initially brought to CELL_DCH. SS transmits a MEASUREMENT CONTROL message to the UE, commanding it to start transmitting report messages for the reporting quantity “UE Transmitted Power”. SS then waits for the MEASUREMENT RERORT message with the allocated measurement identity to arrive. Then it transmits the MEASUREMENT CONTROL message again. In this message, SS requests that the reporting activities for “UE Transmitted Power” be stopped. At the end of this message, SS appends an unknown information element. When the UE receives this message, it shall reply with MEASURMENT CONTROL FAILURE message as it has detected a protocol error. It shall not cease to report its own transmission power level using MEASUREMENT REPORT messages.

Expected Sequence

Step	Direction		Message	Comment
	UE	SS		
1				The UE is CELL_DCH state in cell 1.
2		←	MEASUREMENT CONTROL	SS transmits this message on downlink DCCH to instruct UE to start reporting the quantity “UE transmit power”.
3		→	MEASUREMENT REPORT	UE shall send this message periodically at 32 seconds interval
4		←	MEASURMENT CONTROL	SS sends a MEASUREMENT CONTROL message to request that UE stop the reporting activity.
5		→	MEASUREMENT CONTROL FAILURE	UE shall maintain its current measurement context and send this message.
6		→	MEASUREMENT REPORT	32 seconds after step 3, UE shall continue to transmit this message to the SS.

Specific Message Content

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity Number	3
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	UE internal measurement
- UE internal measurement quantity	
- Measurement quantity	UE Transmitted Power
- Filter coefficient	0
- UE internal reporting quantity	
- UE Transmitted Power	TRUE
- UE Rx-Tx time difference	FALSE
CHOICE report criteria	Periodical reporting criteria
- Amount of reporting	Infinity
- Reporting interval	32 seconds
DPCH compressed mode status info	Not Present

MEASUREMENT REPORT (Step 3)

Information Element	Value/Remarks
Measurement identity number	Check to see if set to 3
Measured ~~ment~~ Results	
CHOICE measurement	Check to see if set to "UE internal measurement"
- UE Transmitted Power	Check to see if the reported power is compatible with RF class
- UE Rx-Tx report entries	Check to see if this IE is absent
Event Results	Check to see if this IE is absent

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity Number	3
Measurement Command	Stop
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Contains an arbitrary value
DPCH compressed mode status info	Not Present

MEASUREMENT CONTROL FAILURE (Step 5)

Information Element	Value/Remark
Failure cause	Check to see if set to "protocol error"
Protocol error information	Check to see if set to "Message extension not comprehended"

MEASUREMENT REPORT (Step 6)

Same as in the requirement for step 3

8.4.1.10.5 Test Requirement

After step 4 the UE shall transmit MEASUREMENT FAILURE message, stating the IE"failure cause" as "protocol error" and IE"protocol error information" as "message extension not comprehended". It shall continue to send MEASUREMENT REPORT with the correct identity number and measurement result entries at approximately 32 seconds interval.

8.4.1.11 Measurement Control and Report: Compressed Mode Configuration Failure during radio bearer reconfiguration procedure

8.4.1.11.1 Definition

8.4.1.11.2 Conformance requirement

During a radio bearer reconfiguration procedure, the UTRAN might request the activation of a new transmission gap pattern sequence configuration. If the UE detects a runtime error due to overlapping compressed mode configuration (when transmission gap pattern sequences create transmission gaps in the same frame), it shall delete the transmission gap pattern sequence configuration associated with highest value of TGPSI. The UE shall also terminate any inter-frequency measurements corresponding to the

deleted transmission gap pattern sequence. Finally, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC, with the cause value in IE "failure cause" set to "compressed mode runtime error".

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.2.11, clause 8.6.6.14

8.4.1.11.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH using AM RLC, if the received RADIO BEARER RECONFIGURATION message includes IE "DPCH compressed mode info" that causes an illegal overlap involving more than one parallel transmission gap pattern sequences. To confirm that the UE terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence

8.4.1.11.4 Method of test

Initial Condition

System Simulator: 2 cells – both cell 1 and cell 4 are active. The downlink power level of cell 4 is 10dB below cell 1.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) as specified in TS34.108 clause 7.4, depending on the CN domain supported.

Test Procedure

The UE is in the CELL_DCH state. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 2's CPICH Ec/No value. Simultaneously, the stored transmission gap pattern sequence configuration associated with TGPSI=1 is indicated to be activated in this message. Upon the reception of this message, the UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report cell 2's measurement results. Next, SS sends a second MEASUREMENT CONTROL message. In this message, a new measurement task is to be established for the measurement and reporting of cell 2's RSCP value on a periodic basis. A deactivated transmission pattern gap sequence configuration (with TGPSI=2) is associated with this new measurement task.

The SS transmits a RADIO BEARER RECONFIGURATION message and commands the activation of transmission gap pattern sequence with TGPSI=2. This is expected to result in the detection of a runtime error due to overlapping compressed mode configuration. The UE then shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC. In this message, the value of IE " failure cause" shall be set to "compressed mode runtime error". The UE shall terminate all inter-frequency measurement tasks associated with TGPSI=2. However, the UE shall continue to send MEASUREMENT REPORT messages to report cell 2's CPICH Ec/No value, which is measured during the transmission gap created by compressed mode configuration corresponding to TGPSI=1.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_DCH state.
2	←		MEASUREMENT CONTROL	Start inter-frequency measurements for cell 2's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1.
3	→		MEASUREMENT REPORT	UE reports cell 2's CPICH Ec/No readings periodically.
4	←		MEASUREMENT CONTROL	Assign inter-frequency measurements for cell 2's RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet.
5	←		RADIO BEARER RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activate it simultaneously
6				UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.
7	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	Failure cause shall be set to "Compressed mode runtime error"
8	→		MEASUREMENT REPORT	The contents shall be the same as that in step 3.

Specific Message Contents

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity Number	1
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- TGPSI	1
- TGPS Status Flag	Active

MEASUREMENT REPORT (Step 3 and 8)

Information Element	Value/Remarks
Integrity check info	If integrity protection is activated, this IE shall be present and SS checks that the MAC-I value matches with the calculated X-MAC value. Else, this IE shall be absent.
Measurement identity number	Check to see if set to "1"
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 4
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Event Results	Check to see if it is absent

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity Number	2
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- TGPSI	2
- TGPS Status Flag	Inactive

RADIO BEARER RECONFIGURATION

The contents of RADIO BEARER RECONFIGURATION message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A with the following exceptions:

Information Element	Value/remark
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Integrity check info	If integrity protection is activated, this IE shall be present and SS checks that the MAC-I value matches with the calculated X-MAC value. Else, this IE shall be absent.
Failure cause	Checked to see if set to “compressed mode runtime error”
- Protocol error information	Checked to see if it is absent
- Deleted TGPSI	Checked to see if it is set to “2”

8.4.1.11.5 Test requirement

After step 6 the UE shall keep transmission gap pattern sequence configuration associated with TGPSI=1. It shall delete the transmission gap pattern sequence configuration associated with TGPSI=2, and delete the inter-frequency measurements corresponding to it. It shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH, with the IE “Failure cause” set to “Compressed mode runtime error”.

After step 7 the UE shall continue to send MEASUREMENT REPORT messages periodically, to report the CPICH Ec/No readings for cell 2. However, no MEASUREMENT REPORT messages containing the RSCP readings for cell 2 shall be sent by the UE.

8.4.1.12 Measurement Control and Report: Compressed Mode Configuration Failure during transport channel reconfiguration procedure

8.4.1.12.1 Definition

8.4.1.12.2 Conformance requirement

During a transport channel reconfiguration procedure, the UTRAN might request the activation of a new transmission gap pattern sequence configuration. If the UE detects a runtime error due to overlapping compressed mode configuration (when transmission gap pattern sequences create transmission gaps in the same frame), it shall delete the transmission gap pattern sequence configuration associated with highest value of TGPSI. The UE shall also terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence. Finally, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC, with the cause value in IE "failure cause" set to "compressed mode runtime error".

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.2.11, clause 8.6.6.14

8.4.1.12.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH using AM RLC, if the received TRANSPORT CHANNEL RECONFIGURATION message includes IE “DPCH compressed mode info” that causes an illegal overlap involving more than one parallel transmission gap pattern sequences. To confirm that the UE terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence

8.4.1.12.4 Method of test

Initial Condition

System Simulator: 2 cells – both cell 1 and cell 4 are active. The downlink power level of cell 4 is 10dB below cell 1.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) as specified in TS34.108 clause 7.4, depending on the CN domain supported.

Test Procedure

The UE is in the CELL_DCH state. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 2’s CPICH Ec/No value. Simultaneously, the stored transmission gap pattern sequence configuration associated with TGPSI=1 is indicated to be activated in this message. Upon the reception of this message, the UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report cell 2’s measurement results. Next, SS sends a second MEASUREMENT CONTROL message. In this message, a new measurement task is to be established for the measurement and reporting of cell 2’s RSCP value on a periodic basis. A deactivated transmission pattern gap sequence configuration (with TGPSI=2) is associated with this new measurement task.

The SS transmits a TRANSPORT CHANNEL RECONFIGURATION message and commands the activation of transmission gap pattern sequence with TGPSI=2. This is expected to result in the detection of a runtime error due to overlapping compressed mode configuration. The UE then shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC. In this message, the value of IE ” failure cause” shall be set to “compressed mode runtime error”. The UE shall terminate all inter-frequency measurement tasks associated with TGPSI=2. However, the UE shall continue to send MEASUREMENT REPORT messages to report cell 2’s CPICH Ec/No value, which is measured during the transmission gap created by compressed mode configuration corresponding to TGPSI=1.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_DCH state.
2	←		MEASUREMENT CONTROL	Start inter-frequency measurements for cell 2's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1.
3	→		MEASUREMENT REPORT	UE reports cell 2's CPICH Ec/No readings periodically.
4	←		MEASUREMENT CONTROL	Assign inter-frequency measurements for cell 2's RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet.
5	←		TRANSPORT CHANNEL RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activate it simultaneously
6				UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.
7	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	Failure cause shall be set to "Compressed mode runtime error"
8	→		MEASUREMENT REPORT	The contents shall be the same as that in step 3.

Specific Message Contents

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity Number	1
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- TGPSI	1
- TGPS Status Flag	Active

MEASUREMENT REPORT (Step 3 and 8)

Information Element	Value/Remarks
Integrity check info	If integrity protection is activated, this IE shall be present and SS checks that the MAC-I value matches with the calculated X-MAC value. Else, this IE shall be absent.
Measurement identity number	Check to see if set to "1"
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 4
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Event Results	Check to see if it is absent

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity Number	2
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- TGPSI	2
- TGPS Status Flag	Inactive

TRANSPORT CHANNEL RECONFIGURATION

The contents of TRANSPORT CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A with the following exceptions:

Information Element	Value/remark
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Integrity check info	If integrity protection is activated, this IE shall be present and SS checks that the MAC-I value matches with the calculated X-MAC value. Else, this IE shall be absent.
Failure cause	Checked to see if set to “compressed mode runtime error”
- Protocol error information	Checked to see if it is absent
- Deleted TGPSI	Checked to see if it is set to “2”

8.4.1.12.5 Test requirement

After step 6 the UE shall keep transmission gap pattern sequence configuration associated with TGPSI=1. It shall delete the transmission gap pattern sequence configuration associated with TGPSI=2, and delete the inter-frequency measurements corresponding to it. It shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH, with the IE “Failure cause” set to “Compressed mode runtime error”.

After step 7 the UE shall continue to send MEASUREMENT REPORT messages periodically, to report the CPICH Ec/No readings for cell 2. However, no MEASUREMENT REPORT messages containing the RSCP readings for cell 2 shall be sent by the UE.

8.4.1.13 Measurement Control and Report: Compressed Mode Configuration Failure during physical channel reconfiguration procedure

8.4.1.13.1 Definition

8.4.1.13.2 Conformance requirement

During a physical channel reconfiguration procedure, the UTRAN might request the activation of a new transmission gap pattern sequence configuration. If the UE detects a runtime error due to overlapping compressed mode configuration (when transmission gap pattern sequences create transmission gaps in the same frame), it shall delete the transmission gap pattern sequence configuration associated with highest value of TGPSI. The UE shall also terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence. Finally, the UE shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC, with the cause value in IE "failure cause" set to "compressed mode runtime error".

Reference

3GPP TS 25.331 clause 8.2.2, clause 8.2.11, clause 8.6.6.14

8.4.1.13.3 Test purpose

To confirm that the UE transmits a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH using AM RLC, if the received PHYSICAL CHANNEL RECONFIGURATION message includes IE “DPCH compressed mode info” that causes an illegal overlap involving more than one parallel transmission gap pattern sequences. To confirm that the UE terminate any inter-frequency measurements corresponding to the deleted transmission gap pattern sequence

8.4.1.13.4 Method of test

Initial Condition

System Simulator: 2 cells – both cell 1 and cell 4 are active. The downlink power level of cell 4 is 10dB below cell 1.

UE: CS-DCCH+DTCH_DCH (State 6-9) or PS-DCCH+DTCH_DCH (State 6-10) as specified in TS34.108 clause 7.4, depending on the CN domain supported.

Test Procedure

The UE is in the CELL_DCH state. SS sends a MEASUREMENT CONTROL message on the downlink DCCH to request the UE to start inter-frequency measurement for cell 2’s CPICH Ec/No value. Simultaneously, the stored transmission gap pattern sequence configuration associated with TGPSI=1 is indicated to be activated in this message. Upon the reception of this message, the UE shall transmit MEASUREMENT REPORT messages periodically at 16 seconds interval to report cell 2’s measurement results. Next, SS sends a second MEASUREMENT CONTROL message. In this message, a new measurement task is to be established for the measurement and reporting of cell 2’s RSCP value on a periodic basis. A deactivated transmission pattern gap sequence configuration (with TGPSI=2) is associated with this new measurement task.

The SS transmits a PHYSICAL CHANNEL RECONFIGURATION message and commands the activation of transmission gap pattern sequence with TGPSI=2. This is expected to result in the detection of a runtime error due to overlapping compressed mode configuration. The UE then shall transmit a PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the DCCH using AM-RLC. In this message, the value of IE ” failure cause” shall be set to “compressed mode runtime error”. The UE shall terminate all inter-frequency measurement tasks associated with TGPSI=2. However, the UE shall continue to send MEASUREMENT REPORT messages to report cell 2’s CPICH Ec/No value, which is measured during the transmission gap created by compressed mode configuration corresponding to TGPSI=1.

Expected sequence

Step	Direction		Message	Comment
	UE	SS		
1				UE is initially in CELL_DCH state.
2	←		MEASUREMENT CONTROL	Start inter-frequency measurements for cell 2's CPICH Ec/No using transmission gap pattern sequence with TGPSI=1.
3	→		MEASUREMENT REPORT	UE reports cell 2's CPICH Ec/No readings periodically.
4	←		MEASUREMENT CONTROL	Assign inter-frequency measurements for cell 2's RSCP. This measurement task is associated with transmission gap pattern sequence with TGPSI=2, which has not been activated yet.
5	←		PHYSICAL CHANNEL RECONFIGURATION	SS specifies the parameters for transmission gap pattern sequence with TGPSI=2 and activate it simultaneously
6				UE shall delete transmission gap pattern sequence configuration associated with TGPSI=2.
7	→		PHYSICAL CHANNEL RECONFIGURATION FAILURE	Failure cause shall be set to "Compressed mode runtime error"
8	→		MEASUREMENT REPORT	The contents shall be the same as that in step 3.

Specific Message Contents

MEASUREMENT CONTROL (Step 2)

Information Element	Value/Remark
Measurement Identity Number	1
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH Ec/No
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- TGPSI	1
- TGPS Status Flag	Active

MEASUREMENT REPORT (Step 3 and 8)

Information Element	Value/Remarks
Integrity check info	If integrity protection is activated, this IE shall be present and SS checks that the MAC-I value matches with the calculated X-MAC value. Else, this IE shall be absent.
Measurement identity number	Check to see if set to "1"
Measured Results	
- CHOICE measurement	Check to see if set to "Inter-frequency measured results list"
- Inter-frequency measurement results	
- Frequency info	
- UARFCN (uplink)	Check to see if set to the UARFCN of the uplink frequency for cell 4
- UARFCN (downlink)	Check to see if set to the UARFCN of the downlink frequency for cell 4
- UTRA carrier RSSI	Check to see if it is absent
- Inter-frequency cell measurement results	
- Cell measured results	
- Cell Identity	Check to see if it is absent
- SFN-SFN observed time difference	Check to see if it is absent
- CFN-SFN observed time difference	Check to see if it is absent
- Primary CPICH Info	
- Primary Scrambling Code	Check to see if set to the same code for cell 4
- CPICH Ec/No	Check to see if it is present
- CPICH RSCP	Check to see if it is absent
- Pathloss	Check to see if it is absent
Event Results	Check to see if it is absent

MEASUREMENT CONTROL (Step 4)

Information Element	Value/Remark
Measurement Identity Number	2
Measurement Command	Setup
Measurement Reporting Mode	Not Present
Additional measurements list	Not Present
CHOICE measurement type	Inter-frequency measurement
- Inter-frequency cell info list	
- Removed inter-frequency info list	Not Present
- New inter-frequency info list	
- Inter-frequency cell id	Set to id of cell 4
- Frequency info	
- UARFCN uplink (Nu)	UARFCN of the uplink frequency for cell 4
- UARFCN downlink (Nd)	UARFCN of the downink frequency for cell 4
- Cell info	
- Cell individual offset	0 dB
- Reference time difference to cell	0 chips
- Primary CPICH Info	
- Primary Scrambling Code	Set to same code as used for cell 4
- Primary CPICH TX power	Not Present
- Read SFN Indicator	FALSE
- TX Diversity Indicator	FALSE
- Inter-frequency measurement quantity	
- CHOICE reporting criteria	Inter-frequency reporting criteria
- Filter Coefficient	0
- Measurement quantity for frequency quality estimate	CPICH RSCP
- Inter-frequency reporting quantity	
- UTRA Carrier RSSI	FALSE
- Frequency quality estimate	TRUE
- Non frequency related cell reporting quantities	
- SFN-SFN observed time difference	No report
- Cell Identity	FALSE
- CPICH Ec/No	TRUE
- CPICH RSCP	FALSE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting cell status	
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type2	2
- Measurement validity	Not present
- Inter-frequency set update	Not present
- CHOICE report criteria	Periodic reporting criteria
- Amount of reporting	Infinity
- Reporting interval	16 seconds
DPCH compressed mode status info	
- TGPSI	2
- TGPS Status Flag	Inactive

PHYSICAL CHANNEL RECONFIGURATION

The contents of PHYSICAL CHANNEL RECONFIGURATION message in this test case is identical to the message sub-type title “Packet to CELL_DCH from CELL_DCH in PS” found in Annex A with the following exceptions:

Information Element	Value/remark
- DPCH compressed mode info	
- TGPSI	2
- TGPS Status Flag	Active
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present

PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information Element	Value/remark
Integrity check info	If integrity protection is activated, this IE shall be present and SS checks that the MAC-I value matches with the calculated X-MAC value. Else, this IE shall be absent.
Failure cause	Checked to see if set to “compressed mode runtime error”
- Protocol error information	Checked to see if it is absent
- Deleted TGPSI	Checked to see if it is set to “2”

8.4.1.13.5 Test requirement

After step 6 the UE shall keep transmission gap pattern sequence configuration associated with TGPSI=1. It shall delete the transmission gap pattern sequence configuration associated with TGPSI=2, and delete the inter-frequency measurements corresponding to it. It shall transmit PHYSICAL CHANNEL RECONFIGURATION FAILURE message on the uplink DCCH, with the IE “Failure cause” set to “Compressed mode runtime error”.

After step 7 the UE shall continue to send MEASUREMENT REPORT messages periodically, to report the CPICH Ec/No readings for cell 2. However, no MEASUREMENT REPORT messages containing the RSCP readings for cell 2 shall be sent by the UE.

Annex A. Default RRC Message Contents

This clause contains the default values of RRC messages, other than those specified in TS 34.108 clauses 6 and 9. Unless indicated otherwise in specific test cases, they shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements which are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

Default SYSTEM INFORMATION:

NOTE 1: SYSTEM INFORMATION BLOCK TYPE 1 (except for PLMN type “GSM-MAP”), SYSTEM INFORMATION BLOCK TYPE 8, SYSTEM INFORMATION BLOCK TYPE 9, SYSTEM INFORMATION BLOCK TYPE 10, SYSTEM INFORMATION BLOCK TYPE 14, SYSTEM INFORMATION BLOCK TYPE 15 and SYSTEM INFORMATION BLOCK TYPE 16 messages are not used.

Contents of ACTIVE SET UPDATE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Maximum allowed UL TX power	33dBm
Radio link addition information	(This IE is repeated for addition RL number.)
- Primary CPICH info	
- Primary scrambling code	The value is for additional cell
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- TFCI combining indicator	TRUE
- SCCPCH Information for FACH	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- Normal	
- TFCI Field 1 information	

- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set.
- Power offset information	Not Present
- FACH/PCH information	
- TFS	(PCH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- TFS	(FACH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- References to system information blocks	Not Present
- Scheduling information	
Radio link removal information	(This IE is repeated for removal RL number.)
- Primary CPICH info	
- Primary scrambling code	The value is for removal cell
TX Diversity Mode	None
SSDT information	Not Present

Contents of ACTIVE SET UPDATE COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information	Not checked

Contents of ACTIVE SET UPDATE FAILURE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	Value will be checked

Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not checked
START List	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
- CN domain identity	Checked to see if it is one of the supported CN domains
- START	Checked to see if it is present
~~Hyper frame number~~	~~Not checked~~
AM_RLC error indication(for c-plane)	Not checked
AM_RLC error indication(for u-plane)	Not checked
Cell update cause	See the test content
Protocol error indicator	Not checked
Measured results on RACH	Not checked
Protocol error information	Not checked

Contents of CELL UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	If this message is sent on CCCH, use the following values. Else, this IE is absent.
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	Not Present
- SRNC identity	
- S-RNTI	
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator(for C-plane)	FALSE
RLC reset indicator(for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	0000 0000 0001B
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	Not Present
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	Not Present
- CHOICE mode	
- Available Signature	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
~~- Signature~~	
- Available SF	
- Scrambling code number	
- Puncturing Limit	
- Available Sub Channel number	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	
~~- Sub channel number~~	

~~- Sub channel number~~ Downlink information common for one radio link - Primary CPICH info - Primary scrambling code - PDSCH with SHO DCH info - DSCH radio link identifier - TFCI Combining set - Radio link identifier - Primary CPICH info - Primary scrambling code - PDSCH code mapping - Downlink DPCH info for each RL - Primary CPICH usage for channel estimation - DPCH frame offset - Secondary CPICH info - Secondary scrambling code - Spreading factor - channelisation code - DL channelisation code - Secondary scrambling code - Code number - Scrambling code change - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode - Secondary CCPCH info - Selection Indicator - Primary CPICH usage for channel estimation - Secondary CPICH info - Secondary scrambling code - channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset - References to system information blocks - Scheduling information	Not Present

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Measurement Identity Number	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Measurement Reporting/Event Trigger Reporting Mode	Event Trigger
Additional measurement list	
- CHOICE Measurement type	
- Intra-frequency measurement	
- Intra-frequency cell info	
- New intra-frequency cell	
- Intra-frequency cell-id	0
- cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Primary CPICH info	
- Primary scrambling code	150
- Primary CPICH Tx power	Not Present
- Read SFN number	FALSE
- TX Diversity indicator	FALSE
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored cells	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-CFN observed time difference	FALSE
- Reporting quantities for detected set cells	Not Present
- Reporting cell status	~~Not Present~~
- CHOICE reporting cell	Within monitored cells on used frequency and within monitored cells on non-used frequency
- Maximum number of reporting cells type 2	2
- Measurement validity	Not Present
- Periodical reporting criteria	
- Amount of reporting	Infinity
- Reporting interval	64 sec
- Inter-system measurement	Not Present
- LCS measurement	Not Present
- Traffic Volume measurement	Not Present
- Quality measurement	Not Present
- UE internal measurement	Not Present
DPCH Compressed mode status info	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	See the test content

Contents of MEASUREMENT REPORT message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Measurement identity number	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0010B
- SFN-SFN observed time difference	Not checked
- CFN-SFN observed time difference	Not checked
- Primary CPICH info	
- Primary scrambling code	150
- CPICH Ec/N0	Not checked
- CPICH RSCP	The presence should be checked
- Pathloss	Not checked
CN domain identity	Not checked
NAS message	Not checked
Measured results on RACH	Not checked

Contents of PAGING TYPE1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	SMS
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE1 message: TM (SMS in PS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	SMS
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Paging cause	Terminating Conversational Call
CN domain identity	CS domain
Paging Record Type identifier	Select the same type as in the IE “Initial UE Identity” in RRC CONNECTION REQUEST” message.

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TPGS status Flag	inactive

- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Selection Indicator	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present

- FACH/PCH information
 - TFS
  - Dynamic Transport format information
   - Number of Transport blocks
 	
   - RLC size
  - Semi-static Transport Format information
   - Transmission time interval
   - Type of channel coding
   - Coding Rate
   - Rate matching attribute
   - CRC size
 - TFS
  - Dynamic Transport format information
   - Number of Transport blocks
 	
   - RLC size
  - Semi-static Transport Format information
   - Transmission time interval
   - Type of channel coding
   - Coding Rate
   - Rate matching attribute
   - CRC size
	Not Present

- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	

- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present

- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - RLCsize - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive

- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present

- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive

- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present

- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present Not Present

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH power control info	Not Present
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	'1111 1111 1111'B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present

Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Spreading factor	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	

- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH power control info	Not Present
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	‘0000 0000 1111 1111’B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	‘1111 1111 1111’B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present

Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	

- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Message Type Other information element	 Not checked

Contents of RADIO BEARER SETUP message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
~~- Receiving window size~~	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC discard	Not Present

- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC
- Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4

UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set

- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	SameAsUL
UL TrCH identity	2
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- UL TrCH identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1

- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present

- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
~~- Receiving window size~~	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	

- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present

- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC Size	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- CHOICE DL parameters	Independent
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	

- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	

- channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset - TFCS	Not Present
- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	Not Present
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
~~- Receiving window size~~	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC

- Transmission RLC discard	
- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3

- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present

- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)

- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present

- Selection Indicator - Primary CPICH usage for channel estimation - Secondary CPICH info - Secondary scrambling code - channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset - TFCS	Not Present
- FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
~~- Receiving window size~~	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	(AM DTCH for PS domain)
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC

- Transmission RLC discard	
- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4

- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- Logical channel max loss	0
- MAC logical channel priority	1
RB information to be affected	(UM CCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set

- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	‘0000 0000 1111 1111’B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	‘1111 1111 1111’B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1

- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	0 chips
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	
- Scrambling code change	No change
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present

- FACH/PCH information
 - TFS
  - Dynamic Transport format information
   - Number of Transport blocks
 	
   - RLC size
  - Semi-static Transport Format information
   - Transmission time interval
   - Type of channel coding
   - Coding Rate
   - Rate matching attribute
   - CRC size
 - TFS
  - Dynamic Transport format information
   - Number of Transport blocks
 	
   - RLC size
  - Semi-static Transport Format information
   - Transmission time interval
   - Type of channel coding
   - Coding Rate
   - Rate matching attribute
   - CRC size
	Not Present

- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
~~- Receiving window size~~	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	(AM DTCH for PS domain)
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC

- Transmission RLC discard	
- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4

- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH for downlink RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set

- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	'1111 1111 1111'B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1

- TGPS Status Flag	Inactive
- Transmission gap pattern sequence confuguration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Curretn CFN + (256 – TT/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	0 chips
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	

- Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to reconfigure list	Not Present
- RB information to reconfigure	
- RB identity	
- PDCP info	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
~~- Receiving window size~~	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM DTCH)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	

- CHOICE CTFC Size	
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted DL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	

- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	100
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	

- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to reconfigure list	Not Present
- RB information to reconfigure	
- RB identity	
- PDCP info	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
~~- Receiving window size~~	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1

- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(DTCH TM)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(DTCH TM)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1

- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
RB information to be affected	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	

- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	

- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to reconfigure list	Not Present
- RB information to reconfigure	
- RB identity	
- PDCP info	
- PDCP info	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
~~- Receiving window size~~	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1

- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(AM DTCH)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	

- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Additon
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	

-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	

- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to reconfigure list	
- RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	

- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
~~- Receiving window size~~	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	

~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	

- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
-Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	

- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	
- Transport channel identity	3
Deleted DL TrCH information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- ~~Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1

- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	

- Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION message : AM or UM(Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to reconfigure list	
- RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
- RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	

- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
- RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
- RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	

- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
- RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
- RB information to reconfigure	(TM CCCH uplink for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC
- Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1

- Logical channel max loss	0
- RB information to reconfigure	(UM CCCH downlink for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
- RB information to reconfigure	(TM BCCH for RRC)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
- RB information to reconfigure	(TM PCCH for RRC)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set

DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	

- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	'1111 1111 1111'B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1

- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	

- Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION message : AM or UM(Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to reconfigure list	
- RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
- RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	

- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
- RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
- RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	

- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
- RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
~~- Receiving window size~~	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
- RB information to reconfigure	(TM CCCH uplink for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- Segmentation Indication	TRUE
- CHOICE Downlink RLC mode	Not Present
- Segmentation Indication	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1

- Logical channel max loss	0
- RB information to reconfigure	(UM CCCH for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
- RB information to reconfigure	(TM BCCH for RRC)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
- RB information to reconfigure	(TM PCCH for RRC)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set

DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set

- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	'1111 1111 1111'B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	

- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling Code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	

- Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Other information element	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information list	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	

DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A

- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	

- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to release	
- RB identity	7
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	

- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Deleted UL TrCH Information	
- Transport channel identity	3
Deleted UL TrCH Information	
- Transport channel identity	4
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- UL TrCH Identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement

- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	

- Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present

Deleted DL TrCH Information	
- Transport channel identity	2
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0

- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to release	
- RB identity	7
RB information to release	
- RB identity	0
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2

RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Siz	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent

- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- ~~Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5

- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	

- Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to reconfigure list	Not Present
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1

- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH downlink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	

DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~

~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	‘1111 1111 1111’B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	

- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RAB information to be reconfigured list	Not Present
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH

- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH downlink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Deleted UL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	Not Present
- Transport channel identity	
- CHOICE DL parameters	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- DCH quality target	
- BLER Quality value	
- Transparent mode signalling info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	'1111 1111 1111'B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	

~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	

- Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4

- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	

- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- Segmentation Indication	TRUE
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	

- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	

- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
~~Downlink information common for all radio links~~	
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	~~0 (single)~~
~~- Spreading factor~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- Fixed or Flexible Position~~	~~Flexible~~
~~- TFCI existence~~	~~TRUE~~
~~- Number of bits for Pilot bits(SF=128,256)~~	~~Not Present~~

- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present

Contents of ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	See the test content
- SRNC identity	
- S-RNTI	
New C-RNTI	See the test content
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not present
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	

Contents of ~~RNTI REALLOCATION~~ UTRAN MOBILITY INFORMATION ~~COMPLETE~~ CONFIRM message:
AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information	Not checked

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Speech in CS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500

- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC

- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- Segmentation Indication	TRUE
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- RB information to setup	
- RB identity	6
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- Segmentation Indication	TRUE
- CHOICE Downlink RLC mode	TM RLC
- Segmentation indication	TRUE
- RB mapping info	

- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- RB information to setup	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- Segmentation Indication	TRUE
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1

- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	

- Transport channel identity	2
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	2
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	3
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	4
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
~~Downlink information common for all radio links~~	
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	~~0 (single)~~
~~- Spreading factor~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- Fixed or Flexible Position~~	~~Fixed~~
~~- TFCI existence~~	~~FALSE~~
~~- Number of bits for Pilot bits(SF=128,256)~~	~~4 bits~~
~~- Downlink DPCH Offset Value~~	~~0~~
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 - TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~

~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~

- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	

- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	

- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set

DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
~~Downlink information common for all radio links~~	
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	~~0 (single)~~
~~- Spreading factor~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~

~~- Fixed or Flexible Position~~	~~Flexible~~
~~- TFCI existence~~	~~TRUE~~
~~- Number of bits for Pilot bits(SF=128,256)~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- Downlink DPCH Offset Value~~	~~0~~
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 – TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	

- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~

- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	

- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AMR RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	

- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
~~Downlink information common for all radio links~~	
~~- Downlink DPCH info common for all RL~~	
~~- Downlink DPCH power control information~~	
~~- DPC mode~~	~~0 (single)~~

~~- Spreading factor~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- Fixed or Flexible Position~~	~~Flexible~~
~~- TFCI existence~~	~~TRUE~~
~~- Number of bits for Pilot bits(SF=128,256)~~	~~Reference to TS34.108 clause 6.10 Parameter Set~~
~~- Downlink DPCH Offset Value~~	~~0~~
~~- DPCH compressed mode info~~	
~~- TGPSI~~	~~1~~
~~- TGPS Status Flag~~	~~inactive~~
~~- Transmission gap pattern sequence configuration parameters~~	
~~- TGMP~~	~~FDD Measurement~~
~~- TGPRC~~	~~62~~
~~- TGCFN~~	~~(Current CFN + (256 – TTI/10msec)) mod 256~~
~~- TGSN~~	~~8~~
~~- TGL1~~	~~10~~
~~- TGL2~~	~~5~~
~~- TGD~~	~~15~~
~~- TGPL1~~	~~35~~
~~- TGPL2~~	~~35~~
~~- RPP~~	~~Mode 1~~
~~- ITP~~	~~Mode 1~~
~~- UL/DL Mode~~	~~DL~~
~~- Downlink compressed mode method~~	~~SF/2~~
~~- Uplink compressed mode method~~	~~Not Present~~
~~- Downlink frame type~~	~~A~~
~~- DeltaSIR1~~	~~2.0~~
~~- DeltaSIRafter1~~	~~1.0~~
~~- DeltaSIR2~~	~~Not Present~~
~~- DeltaSIRafter2~~	~~Not Present~~
~~- TX Diversity mode~~	~~None~~
~~- SSDT information~~	~~Not Present~~
~~- S field~~	
~~- Code Word Set~~	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	

- Fixed or Flexible Position - Timing offset - TFCS - FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	 Not Present Not Present Not Present

Contents of RRC CONNECTION RE-ESTABLISHMENT COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
~~Hyper frame number~~START	Not checked
Radio bearer uplink ciphering activation time info	Value should not be present unless otherwise stated.
RB with PDCP information list	Not checked
- RB with PDCP information	

Contents of RRC CONNECTION RE-ESTABLISHMENT REQUEST message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Value is checked to see if it is equal to the previously assigned U-RNTI
Integrity check info	Not checked
START list	Checked to see if the 'CN domain identity' and 'START' IEs are present for all CN domains supported by the UE
- CN domain identity	Checked to see if it is one of the supported CN domains
~~Hyper frame number~~ - START	~~Value if checked to see if it is equals to "maximum value in the currently used HFNs among CS and PS domains" + 1~~Checked to see if present
AM_RLC error indication (for C-plane)	Not checked
AM_RLC error indication (for U-plane)	Not checked
Protocol error indicator	Value is checked to see if it is set to FALSE
Measured results on RACH	Not checked
Protocol error information	Should be absent as "Protocol error indicator" = FALSE

Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
Initial UE identity	Set to the UE's IMSI (GSM-MAP) or TMSI.
Rejection cause	Unspecified
Wait Time	0
Redirection info	Not Present

Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_FACH)

Information Element	Value/remark
Message Type	
Initial UE identity	Reference to TS34.108 clause 6.10 Parameter Set
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
UTRAN DRX cycle length coefficient	5 (2 to 12)
Capability update requirement	
- UE radio access capability update requirement	FALSE
- System specific capability update requirement	Not Present
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH

- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
~~- Receiving window size~~	~~8~~
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4

- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
Signalling RB information to setup	(TM CCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- Segmentation Indication	TRUE
- CHOICE Downlink RLC mode	Not Present
- Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
Signalling RB information to setup	(UM CCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
Signalling RB information to setup	(TM BCCH for RRC)
- RB identity	6
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
Signalling RB information to setup	(TM PCCH for RRC)
- RB identity	7
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)

- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	‘0000 0000 1111 1111’B
~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	‘1111 1111 1111’B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	

- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
Downlink information for each radio links	Not Present
- Primary CPICH info	
- Primary scrambling code	
- PDSCH with SHO DCH info	
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	
- DL Scrambling Code	
- Signalling Method	
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	

- Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset - TFCS - FACH/PCH information - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - Scheduling information	Not Present Not Present

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked.
Protocol error information	
- Protocol error cause	Value will be checked.

Contents of SECURITY MODE FAILURE message : AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Failure cause	Value will be checked

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP~~O~~ info	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	

- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A

- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	

- References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	

DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0

- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	

- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15

- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	

- Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor âc	0
- Gain factor âd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	

- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set

- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- CHOICE mode	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- DL rate matching restriction information	Not Present
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
~~- Downlink DPCH Offset Value~~	~~0~~
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present

- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present

Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	'0000 0000 1111 1111'B
~~- Signature~~	~~0~~

~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	‘1111 1111 1111’B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR1	Not Present
- DeltaSIRafter~~1~~2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	

- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	Stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	Not Present
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- PRACH TFCS	Not Present
- CHOICE mode	FDD
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE DL parameters	Independent

- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
~~PRACH info~~CHOICE channel requirement	PRACH info (for RACH)
- CHOICE mode	FDD
- Available Signature	‘0000 0000 1111 1111’B

~~- Signature~~	~~0~~
~~- Signature~~	~~1~~
~~- Signature~~	~~2~~
~~- Signature~~	~~3~~
~~- Signature~~	~~4~~
~~- Signature~~	~~5~~
~~- Signature~~	~~6~~
~~- Signature~~	~~7~~
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	‘1111 1111 1111’B
~~- Sub channel number~~	~~0~~
~~- Sub channel number~~	~~1~~
~~- Sub channel number~~	~~2~~
~~- Sub channel number~~	~~3~~
~~- Sub channel number~~	~~4~~
~~- Sub channel number~~	~~5~~
~~- Sub channel number~~	~~6~~
~~- Sub channel number~~	~~7~~
~~- Sub channel number~~	~~8~~
~~- Sub channel number~~	~~9~~
~~- Sub channel number~~	~~10~~
~~- Sub channel number~~	~~11~~
CHOICE Mode	FDD
- Downlink PDSCH information	Not Present
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- CHOICE mode	
- Downlink DPCH power control information	
- DPC mode	
- DL rate matching restriction information	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
~~- Downlink DPCH Offset Value~~	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
- Default DPCH Offset Value	0
~~Downlink PDSCH information~~	~~Not Present~~
~~CPCH SET info~~	~~Not Present~~
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present

- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLCsize	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Uplink integrity protection activation info	Not checked
Other information element	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information list	Not checked

Contents of TRANSPORT FORMAT COMBINATION CONTROL message : AM or UM (in CELL_DCH)

Information Element	Value/remark
Message Type	
Integrity check info	Not Present
- Message authentication code	
- RRC Message sequence number	
DPCH TFCS in Uplink	
- Allowed Transport format combination index	0 (The TFC is constructed from ALL TF0)

Contents of UE CAPABILITY ENQUIRY message : [TBD]

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
Capability update requirement	
- UE radio access capability update requirement	TRUE
- System specific capability update requirement list	UE only supports 1 system
- System specific capability update requirement	GSM

Contents of UE CAPABILITY INFORMATION message : AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked
UE radio access capability	Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings
- ICS Version	
- PDCP Capability	
- RLC Capability	
- Transport channel capability	
- RF Capability	
- Physical channel capability	
- UE multi-mode/multi-RAT capability	
- Security Capability	
- LCS Capability	
- Measurement capability	
UE system specific capability	Value will be checked. UE must include the classmark information for the supported system

Contents of UE CAPABILITY INFORMATION CONFIRM message : UM

Information Element	Value/remark
Message Type	
Integrity check info	Not checked

Contents of URA UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not checked
AM_RLC error indication	Not checked
URA update cause	See the test content
Protocol error indicator	Not checked
Protocol error information	Not checked

Contents of URA UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	Not Present
- message authentication code	
- RRC message sequence number	
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present(If ciphering is applied, this IE is needed)
- Ciphering mode command	stop
- Ciphering algorithm	Not Present(Standard UMTS Encryption Algorithm UEA1)
- Activation time for DPCH	Not Present(Used RLC-TM)
- Radio bearer downlink ciphering activation time info	Not Present(Used RLC-AM or RLC-UM)
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	Not Present
- SRNC identity	
- S-RNTI	
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	See the test content
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000

Document T1-000297
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

3GPP/TSG T1/SIG Meeting #14
Redondo Beach, USA, 13-15 November 2000

Document T1S00248
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

34.123-1	CR	034	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: T#10	For approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑	for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: Matsushita Communication Industry Co., Ltd **Date:** 13/11/2000

Subject: Application of integrity mode protection to signalling message by default

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change:

During T1-SIG #12 and T1 Plenary #8 meetings, the topic of applying ciphering by default during UE conformance testing was discussed. The agreement reached was to leave the activation of ciphering mechanism on a voluntary basis for UE manufacturers. As integrity protection is also a part of 3G security strategies, this CR recommends that it be treated in a similar manner as in the approach taken for ciphering. The default contents of affected the messages in Annex A are proposed to be modified, in order to allow voluntary activation of integrity protection algorithm.

- "Integrity check info": If integrity protection is to be applied, this IE and the sub-IEs are present. On the downlink, MAC-I and RRC SN are calculated by SS and specified in the downlink messages. On the uplink, MAC-I and RRC SN shall be present in the uplink messages. SS compares the MAC-I value against the computed X-MAC value.

Clauses affected: Annex A

Other specs affected:

Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications	X	→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

Annex A. Default RRC Message Contents

This clause contains the default values of RRC messages, other than those specified in TS 34.108 clauses 6 and 9. Unless indicated otherwise in specific test cases, they shall be transmitted by the system simulator in RRC messages, and which are required to be received from the UE under test.

The necessary L3 messages are listed in alphabetic order, with the exception of the SYSTEM INFORMATION messages, where it is the information elements which are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "H", or a binary value, indicated by a "B" is used.

Default SYSTEM INFORMATION:

NOTE 1: SYSTEM INFORMATION BLOCK TYPE 1 (except for PLMN type “GSM-MAP”), SYSTEM INFORMATION BLOCK TYPE 8, SYSTEM INFORMATION BLOCK TYPE 9, SYSTEM INFORMATION BLOCK TYPE 10, SYSTEM INFORMATION BLOCK TYPE 14, SYSTEM INFORMATION BLOCK TYPE 15 and SYSTEM INFORMATION BLOCK TYPE 16 messages are not used.

Contents of ACTIVE SET UPDATE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Maximum allowed UL TX power	33dBm
Radio link addition information	(This IE is repeated for addition RL number.)
- Primary CPICH info	
- Primary scrambling code	The value is for additional cell
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- TFCI combining indicator	TRUE
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter

	Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	(This IE is repeated for TFC number for PCH and FACH.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set.
- Power offset information	Not Present
- FACH/PCH information	
- TFS	(PCH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- TFS	(FACH)
- Dynamic Transport format information	(This IE is repeated for TFI number.)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- References to system information blocks	Not Present
- Scheduling information	
Radio link removal information	(This IE is repeated for removal RL number.)
- Primary CPICH info	
- Primary scrambling code	The value is for removal cell
TX Diversity Mode	None
SSDT information	Not Present

Contents of ACTIVE SET UPDATE COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information	Not checked

Contents of ACTIVE SET UPDATE FAILURE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Value will be checked

Contents of CELL UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	~~Not checked~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Hyper frame number	Not checked
AM_RLC error indication(for c-plane)	Not checked
AM_RLC error indication(for u-plane)	Not checked
Cell update cause	See the test content
Protocol error indicator	Not checked
Measured results on RACH	Not checked
Protocol error information	Not checked

Contents of CELL UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	~~Not Present~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	Not Present
- SRNC identity	
- S-RNTI	
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator(for C-plane)	FALSE
RLC reset indicator(for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	0000 0000 0001B
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Maximum allowed UL TX power	33dBm
PRACH info	Not Present
- Available Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Signature	
- Available SF	
- Scrambling code number	
- Puncturing Limit	
- Available Sub Channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	
- Sub channel number	

- Sub channel number - Sub channel number - Sub channel number - Sub channel number - Sub channel number - Sub channel number - Sub channel number	
Downlink information common for one radio link - Primary CPICH info - Primary scrambling code - PDSCH with SHO DCH info - DSCH radio link identifier - TFCI Combining set - Radio link identifier - Primary CPICH info - Primary scrambling code - PDSCH code mapping - Downlink DPCH info for each RL - Primary CPICH usage for channel estimation - DPCH frame offset - Secondary CPICH info - Secondary scrambling code - Spreading factor - channelisation code - DL channelisation code - Secondary scrambling code - Code number - Scrambling code change - TPC combination index - SSDT Cell Identity - Closed loop timing adjustment mode - Secondary CCPCH info - Selection Indicator - Primary CPICH usage for channel estimation - Secondary CPICH info - Secondary scrambling code - channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset - References to system information blocks - Scheduling information	Not Present

Contents of MEASUREMENT CONTROL message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Measurement Identity Number	1
Measurement Command	Setup
Measurement Reporting Mode	
- Measurement Report Transfer Mode	Acknowledged mode RLC
- Measurement Reporting/Event Trigger Reporting Mode	Event Trigger
Additional measurement list	
- CHOICE Measurement type	
- Intra-frequency measurement	
- Intra-frequency cell info	
- New intra-frequency cell	
- Intra-frequency cell-id	0
- cell info	
- Cell individual offset	0dB
- Reference time difference to cell	Not Present
- Primary CPICH info	
- Primary scrambling code	150
- Primary CPICH Tx power	Not Present
- Read SFN number	FALSE
- TX Diversity indicator	FALSE
- Intra-frequency measurement quantity	
- Filter coefficient	0
- Measurement quantity	CPICH RSCP
- Intra-frequency reporting quantity	
- Reporting quantities for active set cells	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-SFN observed time difference	FALSE
- Reporting quantities for monitored cells	
- SFN-SFN observed time difference	No report
- Cell Identity	TRUE
- CPICH Ec/N0	FALSE
- CPICH RSCP	TRUE
- Pathloss	FALSE
- CFN-CFN observed time difference	FALSE
- Reporting quantities for detected set cells	Not Present
- Reporting cell status	Not Present
- Measurement validity	Not Present
- Periodical reporting criteria	
- Amount of reporting	Infinity
- Reporting interval	64 sec
- Inter-system measurement	Not Present
- LCS measurement	Not Present
- Traffic Volume measurement	Not Present
- Quality measurement	Not Present
- UE internal measurement	Not Present
DPCH Compressed mode status info	Not Present

Contents of MEASUREMENT CONTROL FAILURE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~The presence of this IE is dependent on IXIT

	statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	See the test content

Contents of MEASUREMENT REPORT message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Measurement identity number	1
Measured Results	
- Intra-frequency measured results	
- Cell measured results	
- Cell Identity	0000 0000 0000 0000 0000 0000 0010B
- SFN-SFN observed time difference	Not checked
- CFN-SFN observed time difference	Not checked
- Primary CPICH info	
- Primary scrambling code	150
- CPICH Ec/N0	Not checked
- CPICH RSCP	The presence should be checked
- Pathloss	Not checked
CN domain identity	Not checked
NAS message	Not checked
Measured results on RACH	Not checked

Contents of PAGING TYPE1 message: TM (SMS in CS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	SMS
- CN domain identity	CS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE1 message: TM (SMS in PS)

Information Element	Value/remark
Message Type	
Paging record	
- Paging cause	SMS
- CN domain identity	PS domain
- CHOICE UE identity	
- IMSI	Set to the same octed string as in the IMSI stored in the USIM card
BCCH modification info	Not Present

Contents of PAGING TYPE2 message: AM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Paging cause	Terminating Conversational Call
CN domain identity	CS domain
Paging Record Type identifier	Select the same type as in the IE “Initial UE Identity” in RRC CONNECTION REQUEST” message.

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1

- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TPGS status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITPITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter

	Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Selection Indicator	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	

- TGPSI	1
TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	

- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLCsize	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0

- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	

- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in TS 34.123-~~3~~2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0

- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	

- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH power control info	Not Present
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6

- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	

- Secondary CCPCH info	
- Spreading factor	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH power control info	Not Present
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6

- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	

- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of PHYSICAL CHANNEL RECONFIGURATION COMPLETE message: AM

Message Type	
Other information element	Not checked

Contents of RADIO BEARER SETUP message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	
- Ciphering mode command	Start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time info	Not Present
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Receiving window size	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain

- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	

- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all

	combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	SameAsUL
UL TrCH identity	2
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- UL TrCH identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35

- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	

- Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	
- Ciphering mode command	Start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	5
- RLC sequence number	Current RLC SN + 2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Receiving window size	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain

- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set

- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC Size	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- CHOICE DL parameters	Independent
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)

- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	

- Secondary CPICH info - Secondary scrambling code - channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	
- Ciphering mode command	Start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	5
- RLC sequence number	Current RLC SN + 2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Receiving window size	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain

- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	

- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set

- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present

- Selection Indicator - Primary CPICH usage for channel estimation - Secondary CPICH info - Secondary scrambling code - channelisation code - Secondary scrambling code - SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	5
- RLC sequence number	Current RLC SN + 2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Receiving window size	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	
- RAB info	(AM DTCH for PS domain)
- RAB identity	0000 0001B
- CN domain identity	PS domain

- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	

- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- Logical channel max loss	0
- MAC logical channel priority	1
RB information to be affected	(UM CCCH for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4

- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1

- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	0 chips
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	
- Scrambling code change	No change
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	

- Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER SETUP message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	5
- RLC sequence number	Current RLC SN
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	Not Present
- RB identity	
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Receiving window size	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
RAB information for setup	(AM DTCH for PS domain)
- RAB info	
- RAB identity	0000 0001B

- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- CHOICE SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	

- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH for downlink RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	

- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence confuguration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Curretn CFN + (256 – TT/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35

- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	0 chips
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	

- Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	Not Present
- RB identity	
- PDCP info	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Receiving window size	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	

- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM DTCH)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
UL Transport channel information for all transport	

channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted DL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	

-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	100
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	

- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	Not Present
- RB identity	
- PDCP info	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Receiving window size	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	

- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(DTCH TM)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to be affected	(DTCH TM)

- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
RB information to be affected	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent

- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present

- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present

- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	Not Present
- RB identity	
- PDCP info	
- PDCP info	
- RLC info	
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- Timer_MRW	
- Timer discard	
- MaxMRW	
- Transmission window size	
- Receiving window size	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
-RB suspend/resume	
RB information to be affected	(UM DCCH for RRC)

- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(AM DTCH)
- RB identity	5
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2

- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Additon
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set

- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	

- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE

	and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	

- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	

- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1

RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
-Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	

- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	
- Transport channel identity	3
Deleted DL TrCH information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)

- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	

- Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RECONFIGURATION message : AM or UM(Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command - Downlink integrity protection activation info - RRC message sequence number - RRC message sequence number - Integrity protection algorithm - Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command - Ciphering algorithm - Activation time for DPCH - Radio bearer downlink ciphering activation time info - Radio bearer identity - RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity - CN common GSM-MAP NAS system information - CN domain identity	

- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	

- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	

- CHOICE SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to reconfigure	(TM CCCH uplink for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to reconfigure	(UM CCCH downlink for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to reconfigure	(TM BCCH for RRC)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5

RB information to reconfigure	(TM PCCH for RRC)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Deleted UL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent

- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0

- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	

- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION message : AM or UM(Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to reconfigure	(UM DCCH for RRC)
- RB identity	1
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to reconfigure	(AM DCCH for RRC)
- RB identity	2
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	

- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to reconfigure	(AM DCCH for NAS_DT High priority)
- RB identity	3
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to reconfigure	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	

- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to reconfigure	(AM DTCH)
- RB identity	5
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	
- Transmission RLC discard	
- SDU discard mode	
- MAX_DAT	
- Transmission window size	
- Receiving window size	
- Timer_RST	
- Max_RST	
- Polling info	
- Timer_poll_prohibit	
- Timer_poll	
- Poll_SDU	
- Last transmission PU poll	
- Last retransmission PU poll	
- Poll_Windows	
- CHOICE Downlink RLC mode	
- In-sequence delivery	
- Receiving window size	
- Downlink RLC status info	
- Timer_status_prohibit	
- Timer_EPC	
- Missing PU indicator	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	6
- MAC logical channel priority	6
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to reconfigure	(TM CCCH uplink for RRC)

- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	Not Present
Segmentation Indication	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to reconfigure	(UM CCCH for RRC)
- RB identity	0
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to reconfigure	(TM BCCH for RRC)
- RB identity	6
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to reconfigure	(TM PCCH for RRC)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Deleted UL TrCH information	

- Transport channel identity	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFCS representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH information	
- Transport channel identity	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	

- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	

- TGPSI	1
- TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling Code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0

- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RECONFIGURATION COMPLETE message: AM

Message Type	
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
Other information element	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information list	Not checked

Contents of RADIO BEARER RELEASE message: AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1

- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).

- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	

- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	

- SSDT Indicator - Spreading factor - Code number - Pilot symbol existence - TFCI existence - Fixed or Flexible Position - Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size	
- References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to release	
- RB identity	7
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factor	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	
- Transport channel identity	2
Deleted UL TrCH Information	
- Transport channel identity	3
Deleted UL TrCH Information	
- Transport channel identity	4
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set

- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- UL TrCH Identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- Bit mode RLC size info	
- Transport block size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A

- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	

- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1

- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	

- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Added or Reconfigured DL TrCH information	If TrCH reconfiguration is executed then this is needed(e.g The rate of SRB for DCCH is changed.).
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35

- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	

- Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	5
RB information to release	
- RB identity	6
RB information to release	
- RB identity	7
RB information to release	
- RB identity	0
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1

- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Siz	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH Information	
- Transport channel identity	2
Deleted DL TrCH Information	
- Transport channel identity	3
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	N/A
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0

- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	

- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)

- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Transport channel identity	1
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH downlink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	

- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Deleted UL TrCH Information	
- Transport channel identity	2
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	

- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	

- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE

- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RADIO BEARER RELEASE message: AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB information to release	
- RB identity	5
RB information to be affected	(UM DCCH for RRC)
- RB identity	1
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
RB information to be affected	(AM DCCH for RRC)
- RB identity	2
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
RB information to be affected	(AM DCCH for NAS_DT High priority)
- RB identity	3

- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
RB information to be affected	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
RB information to be affected	(TM CCCH uplink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
RB information to be affected	(UM CCCH downlink for RRC)
- RB identity	0
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
RB information to be affected	(TM BCCH for RRC)
- RB identity	6
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
RB information to be affected	(TM PCCH for RRC)
- RB identity	7
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	PCH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Deleted UL TrCH Information	Not Present
- Transport channel identity	
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set

- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
CPCH set ID	Not Present
DRAC static information	Not Preaent
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class Identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Deleted DL TrCH Information	
- Transport channel identity	4
Added or Reconfigured DL TrCH information	Not Present
- Transport channel identity	
- CHOICE DL parameters	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- DCH quality target	
- BLER Quality value	
- Transparent mode signalling info	
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8

- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Code number	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present

- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX

UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH

- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200

- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
- Segmentation Indication	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all

	combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present

Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None

- SSDT information - S field - Code Word Set	Not Present
Downlink PDSCH information	Not Present
CPCH SET info	Not Present

Contents of RNTI REALLOCATION message: AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	See the test content
- SRNC identity	
- S-RNTI	
New C-RNTI	See the test content
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	

Contents of RNTI REALLOCATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information	Not checked

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Speech in CS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	(256+CFN-(CFN MOD 8 + 8))MOD 256
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	0
- RLC sequence number	Current RLC SN + 2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0

- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8

- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	CS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present

- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- RB information to setup	
- RB identity	6
- PDCP info	Not Present
- RLC info	Not Present
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- RB information to setup	(This IE is needed for 12.2 kbps and 10.2 kbps)
- RB identity	7
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	

- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- TFS	(This IE is repeated for TFI number)
- Dynamic Transport format information	
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set

- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	2
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	3
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	(This IE is needed for 12.2 kbps and 10.2 kbps)
- Transport channel identity	4
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	4
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	

- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Number of bits for Pilot bits(SF=128,256)	4 bits
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	

- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	0
- RLC sequence number	Current RLC SN + 2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1

- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE

- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC

- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0

- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)

- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	

- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT message: UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
U-RNTI	Not Present
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	
- Ciphering mode command	start
- Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
- Activation time for DPCH	Not Present
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	0
- RLC sequence number	Current RLC SN + 2
- Radio bearer identity	1
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	2
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	3
- RLC sequence number	Current RLC SN+2
- Radio bearer identity	4
- RLC sequence number	Current RLC SN+2
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
RLC reset indicator (for C-plane)	FALSE
RLC reset indicator (for U-plane)	FALSE
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1

- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE

- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
RAB information for setup	
- RAB info	
- RAB identity	0000 0001B
- CN domain identity	PS domain
- Re-establishment timer	
- T314	20 seconds
- RB information to setup	
- RB identity	5
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	AM RLC

- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AMR RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
RB information to release	Not Present
RB information to reconfigure	Not Present
RB information to be affected	Not Present
- RB identity	
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	
- Uplink transport channel type	
- Transport channel identity	
- Logical channel identity	
- MAC logical channel priority	
- Logical channel max loss	
- Number of RLC logical channels	
- Downlink transport channel type	
- Transport channel identity	
- Logical channel identity	
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor βc	0

- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Deleted UL TrCH information	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Deleted DL TrCH information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)

- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	

- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of RRC CONNECTION RE-ESTABLISHMENT COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
Hyper frame number	Not checked
Radio bearer uplink ciphering activation time info	SS must follow the IE to cipher on each RB.
RB with PDCP information list	Not checked
- RB with PDCP information	

Contents of RRC CONNECTION RE-ESTABLISHMENT REQUEST message: TM

Information Element	Value/remark
Message Type	
U-RNTI	Value is checked to see if it is equal to the previously assigned U-RNTI
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Hyper frame number	Value if checked to see if it is equals to “maximum value in the currently used HFNs among CS and PS domains” + 1
AM_RLC error indication (for C-plane)	Not checked
AM_RLC error indication (for U-plane)	Not checked
Protocol error indicator	Value is checked to see if it is set to FALSE
Measured results on RACH	Not checked
Protocol error information	Should be absent as “Protocol error indicator” = FALSE

Contents of RRC CONNECTION REJECT message: UM

Information Element	Value/remark
Message Type	
Initial UE identity	Set to the UE's IMSI (GSM-MAP) or TMSI.
Rejection cause	Unspecified
Wait Time	0
Redirection info	Not Present

Contents of RRC CONNECTION SETUP message: UM (Transition to CELL_FACH)

Information Element	Value/remark
Message Type	
Initial UE identity	Reference to TS34.108 clause 6.10 Parameter Set
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
New C-RNTI	0000 0000 0000 0001B
UTRAN DRX cycle length coefficient	5 (2 to 12)
Capability update requirement	
- UE radio access capability update requirement	FALSE
- System specific capability update requirement	Not Present
Signalling RB information to setup	(UM DCCH for RRC)
- RB identity	1
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE Downlink RLC mode	UM RLC
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	1
- MAC logical channel priority	2
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
Signalling RB information to setup	(AM DCCH for RRC)
- RB identity	2
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8

- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	2
- MAC logical channel priority	3
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	2
Signalling RB information to setup	(AM DCCH for NAS_DT High priority)
- RB identity	3
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	3
- MAC logical channel priority	4
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	3
Signalling RB information to setup	(AM DCCH for NAS_DT Low priority)
- RB identity	4
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- Transmission window size	8
- Receiving window size	8
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200

- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll_Windows	99
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	4
- MAC logical channel priority	5
- Logical channel max loss	0
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	4
Signalling RB information to setup	(TM CCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	TM RLC
- Transmission RLC Discard	Not Present
- CHOICE Downlink RLC mode	Not Present
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Uplink transport channel type	RACH
- Logical channel identity	5
- MAC logical channel priority	1
- Logical channel max loss	0
Signalling RB information to setup	(UM CCCH for RRC)
- RB identity	0
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	UM RLC
- Transmission RLC discard	
- SDU discard mode	Max DAT retransmissions
- MAX_DAT	4
- Timer_MRW	100
- MaxMRW	4
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	5
Signalling RB information to setup	(TM BCCH for RRC)
- RB identity	6
- CHOICE RLC info type	
- RLC info	
- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	6
Signalling RB information to setup	(TM PCCH for RRC)
- RB identity	7
- CHOICE RLC info type	
- RLC info	

- CHOICE Uplink RLC mode	Not Present
- CHOICE Downlink RLC mode	TM RLC
Segmentation Indication	TRUE
- RB mapping info	
- Information for each multiplexing option	
- Number of RLC logical channels	1
- Downlink transport channel type	FACH
- Logical channel identity	1
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5

- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink information for each radio links	Not Present
- Primary CPICH info	
- Primary scrambling code	
- PDSCH with SHO DCH info	
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	
- DL Scrambling Code	
- Signalling Method	
- Downlink DPCH info for each RL	

- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- Scheduling information	

Contents of RRC STATUS message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked.~~ ~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Protocol error information	
- Protocol error cause	Value will be checked.

Contents of SECURITY MODE FAILURE message : AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Failure cause	Value will be checked

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (The others of speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCO info	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.

- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible

- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	

- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Speech in CS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set

- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	SameAsUL
- UL TrCH Identity	1
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	8slot
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35

- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	

- Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	

- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE TFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Not Present
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive

- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present

- TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - TFS - Dynamic Transport format information - Number of Transport blocks - RLC size - Semi-static Transport Format information - Transmission time interval - Type of channel coding - Coding Rate - Rate matching attribute - CRC size - References to system information blocks - Scheduling information	Not Present

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_DCH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factors
- Gain factor βc	0
- Gain factor βd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	

- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
Added or Reconfigured UL TrCH information	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	Not Present
- CHOICE DL parameters	
- DL DCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition
- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	
- BLER Quality value	0.00
- Transparent mode signalling info	Not Present
Frequency info	

- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
Uplink DPCH info	
-Uplink DPCH power control info	
-DPCCH Power offset	-6dB
-PC Preamble	8slot
-Power Control Algorithm	Algorithm1
-TPC step size	1dB
- Scrambling code type	Long
- Scrambling code number	0 (0 to 16777215)
- Number of DPDCH	Not Present(1)
- spreading factor	SF is reference to TS34.108 clause 6.10 Parameter Set
- TFCI existence	TRUE
- Number of FBI bits	Not Present(0)
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Fixed or Flexible Position	Flexible
- TFCI existence	TRUE
- Number of bits for Pilot bits(SF=128,256)	Reference to TS34.108 clause 6.10 Parameter Set
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- DPCH frame offset	0 chips

- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	1
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Scrambling code change	No change
- TPC combination index	0
- SSDT Cell Identity	-a
- Closed loop timing adjustment mode	Not Present
- Secondary CCPCH info	Not Present
- Selection Indicator	
- Primary CPICH usage for channel estimation	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	
- SSDT Indicator	
- Spreading factor	
- Code number	
- Pilot symbol existence	
- TFCI existence	
- Fixed or Flexible Position	
- Timing offset	
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_FACH from CELL_DCH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	Not Present
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition

- TFCS addition information	
- CHOICE CTFC Size	
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	Not Present
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set

- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR1	Not Present
- DeltaSIRafter1	Not Present
- TX Diversity mode	None
- SSDT information	Not Present

- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	100
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION message : AM or UM (Packet to CELL_FACH from CELL_FACH in PS)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
Activation time	(256+CFN-(CFN MOD 8 + 8))MOD 256
New U-RNTI	Not Present
New C-RNTI	0000 0000 0000 0010B
DRX indicator	noDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
RB with PDCP information	Not Present
UL Transport channel information for all transport channels	
- TFC subset	(This IE is repeated for TFC number.)
- Allowed Transport Format combination	0 to MaxTFCValue-1 (MaxTFCValue is refer to TS34.108 clause 6.10 Parameter Set.)
- UL DCH TFCS	Not Present
Added or Reconfigured UL TrCH information	
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
DRAC static information	Not Present
- Transmission Time Validity	
- Time duration before retry	
- DRAC Class identity	
DL Transport channel information common for all transport channel	
- SCCPCH TFCS	(This IE is repeated for TFC number.)
- Normal	
- TFCI Field 1 information	
- CHOICE CTFC representation	Addition

- TFCS addition information	
- CHOICE CTFC Size	Number of bits used must be enough to cover all combinations of CTFC from clause 6.10.
- CTFC information	Refer to TS34.108 clause 6.10 Parameter Set
- Power offset information	
- CHOICE DL parameters	Independent
- DL DCH TFCS	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	1
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	2
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	3
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set
- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Added or Reconfigured DL TrCH information	
- Transport channel identity	4
- CHOICE DL parameters	Independent
- TFS	
- Dynamic Transport format information	(This IE is repeated for TFI number)
- Number of Transport blocks	Reference to TS34.108 clause 6.10 Parameter Set
- RLC size	Reference to TS34.108 clause 6.10 Parameter Set
- Semi-static Transport Format information	
- Transmission time interval	Reference to TS34.108 clause 6.10 Parameter Set
- Type of channel coding	Reference to TS34.108 clause 6.10 Parameter Set
- Coding Rate	Reference to TS34.108 clause 6.10 Parameter Set
- Rate matching attribute	Reference to TS34.108 clause 6.10 Parameter Set

- CRC size	Reference to TS34.108 clause 6.10 Parameter Set
- DCH quality target	Not Present
- BLER Quality value	
- Transparent mode signalling info	Not Present
Frequency info	
- UARFCN uplink(Nu)	Reference to TS34.108 clause 6.10 Parameter Set
- UARFCN downlink(Nd)	Reference to TS34.108 clause 6.10 Parameter Set
Maximum allowed UL TX power	33dBm
PRACH info	
- Available Signature	
- Signature	0
- Signature	1
- Signature	2
- Signature	3
- Signature	4
- Signature	5
- Signature	6
- Signature	7
- Available SF	Reference to TS34.108 clause 6.10 Parameter Set
- Scrambling code number	0
- Puncturing Limit	Reference to TS34.108 clause 6.10 Parameter Set
- Available Sub Channel number	
- Sub channel number	0
- Sub channel number	1
- Sub channel number	2
- Sub channel number	3
- Sub channel number	4
- Sub channel number	5
- Sub channel number	6
- Sub channel number	7
- Sub channel number	8
- Sub channel number	9
- Sub channel number	10
- Sub channel number	11
Downlink information common for all radio links	Not Present
- Downlink DPCH info common for all RL	
- Downlink DPCH power control information	
- DPC mode	
- Spreading factor	
- Fixed or Flexible Position	
- TFCI existence	
- Number of bits for Pilot bits(SF=128,256)	
- Downlink DPCH Offset Value	
- DPCH compressed mode info	
- TGPSI	1
- TGPS Status Flag	inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink compressed mode method	SF/2
- Uplink compressed mode method	Not Present
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None

- SSDT information	Not Present
- S field	
- Code Word Set	
Downlink PDSCH information	Not Present
CPCH SET info	Not Present
Downlink information for each radio links	
- Primary CPICH info	
- Primary scrambling code	150
- PDSCH with SHO DCH info	Not Present
- DSCH radio link identifier	
- TFCI Combining set	
- Radio link identifier	
- Primary CPICH info	
- Primary scrambling code	
- PDSCH code mapping	Not Present
- Downlink DPCH info for each RL	Not Present
- Primary CPICH usage for channel estimation	
- DPCH frame offset	
- Secondary CPICH info	
- Secondary scrambling code	
- channelisation code	
- DL channelisation code	
- Secondary scrambling code	
- Spreading factor	
- Code number	
- Scrambling code change	
- TPC combination index	
- SSDT Cell Identity	
- Closed loop timing adjustment mode	
- Secondary CCPCH info	
- Selection Indicator	Not Present
- Primary CPICH usage for channel estimation	Primary CPICH may be used
- Secondary CPICH info	Not Present
- Secondary scrambling code	
- channelisation code	
- Secondary scrambling code	1
- SSDT Indicator	FALSE
- Spreading factor	Reference to TS34.108 clause 6.10 Parameter Set
- Code number	SF-1(SF is reference to TS34.108 clause 6.10 Parameter Set)
- Pilot symbol existence	FALSE
- TFCI existence	TRUE
- Fixed or Flexible Position	Flexible
- Timing offset	0
- TFCS	Not Present
- FACH/PCH information	Not Present
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLCsize	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	
- RLC size	
- Semi-static Transport Format information	
- Transmission time interval	
- Type of channel coding	
- Coding Rate	
- Rate matching attribute	
- CRC size	
- References to system information blocks	Not Present
- Scheduling information	

Contents of TRANSPORT CHANNEL RECONFIGURATION COMPLETE message: AM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
Uplink integrity protection activation info	Not checked
Other information element	Not checked
Radio bearer uplink ciphering activation time info	Not checked
RB with PDCP information list	Not checked

Contents of TRANSPORT FORMAT COMBINATION CONTROL message : AM or UM (in CELL_DCH)

Information Element	Value/remark
Message Type	
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC Message sequence number	SS provides the value of this IE, from its internal counter.
DPCH TFCS in Uplink	
- Allowed Transport format combination index	0 (The TFC is constructed from ALL TF0)

Contents of UE CAPABILITY ENQUIRY message : [TBD]

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC Message sequence number	SS provides the value of this IE, from its internal counter.
Capability update requirement	
- UE radio access capability update requirement	TRUE
- System specific capability update requirement list	UE only supports 1 system
- System specific capability update requirement	GSM

Contents of UE CAPABILITY INFORMATION message : AM or UM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
UE radio access capability	Value will be checked. Stated capability must be compatible with 34.123-2 (ICS statements) and the user settings
- ICS Version	
- PDCP Capability	
- RLC Capability	
- Transport channel capability	
- RF Capability	
- Physical channel capability	
- UE multi-mode/multi-RAT capability	
- Security Capability	
- LCS Capability	
- Measurement capability	
UE system specific capability	Value will be checked. UE must include the classmark information for the supported system

Contents of UE CAPABILITY INFORMATION CONFIRM message : UM

Information Element	Value/remark
Message Type	
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- Message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC Message sequence number	SS provides the value of this IE, from its internal counter.

Contents of URA UPDATE message: TM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	~~Not checked~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE shall be present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs shall be absent.
- Message authentication code	This IE is checked to see if it is present. The value is compared against the XMAC-I value computed by SS.
- RRC Message sequence number	This IE is checked to see if it is present. The value is used by SS to compute the XMAC-I value.
AM_RLC error indication	Not checked
URA update cause	See the test content
Protocol error indicator	Not checked
Protocol error information	Not checked

Contents of URA UPDATE CONFIRM message: UM

Information Element	Value/remark
Message Type	
U-RNTI	
- SRNC identity	0000 0000 0001B
- S-RNTI	0000 0000 0000 0000 0001B
Integrity check info	~~Not Present~~~~This~~The presence of this IE is dependent on IXIT statements in ~~TS 34.123-3~~TS 34.123-2. If integrity protection is indicated to be active, this IE is present with the values of the sub IEs as stated below. Else, this IE and the sub-IEs are omitted.
- message authentication code	SS calculates the value of MAC-I for this message and writes to this IE.
- RRC message sequence number	SS provides the value of this IE, from its internal counter.
Integrity protection mode info	Not Present
- Integrity protection mode command	
- Downlink integrity protection activation info	
- RRC message sequence number	
- RRC message sequence number	
- Integrity protection algorithm	
- Integrity protection initialisation number	
Ciphering mode info	Not Present
- Ciphering mode command	
- Ciphering algorithm	
- Activation time for DPCH	
- Radio bearer downlink ciphering activation time info	
- Radio bearer identity	
- RLC sequence number	
New U-RNTI	Not Present
- SRNC identity	
- S-RNTI	
New C-RNTI	Not Present
DRX indicator	NoDRX
UTRAN DRX cycle length coefficient	Not Present
CN information info	Not Present
- PLMN identity	
- CN common GSM-MAP NAS system information	
- CN domain identity	
- CN domain specific GSM-MAP NAS system information	
URA identity	See the test content
RB with PDCP information	Not Present
- RB identity	
- PDCP SN info	

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000

Document T1-000298
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

3GPP/TSG T1/SIG Meeting #14
Redondo Beach, USA, 13-15 November 2000

Document T1S-000249
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

34.123-1	CR	044	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: T#10 *list expected approval meeting # here ↑*	for approval	X	strategic		*(for SMG use only)*
	for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN / Radio [ ] Core Network [ ]

Source: NEC Australia Pty Ltd **Date:** 14 Nov 2000

Subject: Update of Session Management test cases

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature	X		Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change:

- Aligning test specification with TS 24.008v3.5.0
- Clarification of old test cases
- Editorial changes

Clauses affected:

- New test cases: 11.1.3.3, 11.1.4.2, 11.2.2.1, 11.2.2.2, 11.2.3.1, 11.2.3.2
- Clarification: 11.1.4.1.1, 11.1.4.1.2.1, 11.1.4.1.2.2, 11.1.4.2
- Editorial: 11.1.1.1, 11.1.1.2.1, 11.1.1.2.2, 11.1.2, 11.1.3.1, 11.1.3.2, 11.2.1, 11.3.1, 11.3.2, 11.3.3.1, 11.3.3.2

Other specs affected:

Other 3G core specifications		→	List of CRs:
Other GSM core specifications		→	List of CRs:
MS test specifications	X	→	List of CRs:
BSS test specifications		→	List of CRs:
O&M specifications		→	List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

11 Session Management Procedures

11.1 PDP context activation

11.1.1 Initiated by the UE

11.1.1.1 Attach initiated by context activation/QoS Offered by Network is the QoS Requested

11.1.1.1.1 Definition

11.1.1.1.2 Conformance requirement

PDP context activation shall initiate PS Attach by the UE to establish a GMM context, when the UE is PS Detached.

In order to request a PDP context activation, the UE sends an ACTIVATE PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. The message contains the selected NSAPI, PDP type, requested QoS and, if the UE requests a static address, the PDP address.

If the QoS offered by the network is the same as the QoS requested by the UE, then upon receipt of the message ACTIVATE PDP CONTEXT ACCEPT the UE shall stop timer T3380.

In GSM, the MS shall initiate establishment of the logical link for the LLC SAPI indicated by the network with the offered QoS and selected radio priority level if no logical link has been already established for that SAPI.

In UMTS, both the network and the MS shall store the LLC SAPI and the radio priority in the PDP context. ~~If a UMTS to GSM system change is performed, the new SGSN shall initiate establishment of the logical link using the negotiated QoS profile, the negotiated LLC SAPI, and selected radio priority level stored in the PDP context as in a GSM to GSM Routing Area Update.~~

A~~n MS~~UE, which is capable of operating in both GSM and UMTS, shall use a valid LLC SAPI, while a~~n MS~~ UE which is capable of operating only in UMTS shall indicate the LLC SAPI value as "LLC SAPI not assigned" in order to avoid unnecessary value range checking and any other possible confusion in the network.

NOTE: The radio priority level and the LLC SAPI parameters, though not used in UMTS, shall be included in the messages, in order to support handover between UMTS and GSM networks.

Reference

3G TS 24.008 sub-clauses 6.1.3.1 and 6.1.3.1.1.

11.1.1.1.3 Test purpose

To check that the UE initiates a PS attach, if one is not already active, when PDP context activation is requested.

To test the behaviour of the UE when SS responds to ~~a~~the PDP context activation request with the requested QoS.

11.1.1.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE ~~and~~ is in GMM-state "GMM-DEREGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of context activation

Test procedure

If the UE is attached a detach request is sent from the SS. UE replies with DETACH ACCEPT. A PDP context activation is then requested by the user. The PS attach (ATTACH REQUEST) is then indirectly caused by a requested PDP context activation. The SS returns the ATTACH ACCEPT message to the UE. Now session management can proceed with PDP context activation.

On receipt of the ACTIVATE PDP CONTEXT REQUEST message an ACTIVATE PDP CONTEXT ACCEPT is returned by the SS with the same requested QoS. The contents of the ACTIVATE PDP CONTEXT REQUEST message shall then be checked. The SS then waits for T3380 seconds to ensure T3380 has been stopped and no more ACTIVATE PDP CONREXT REQUEST messages are sent by the UE. The SS then sends a MODIFY PDP CONTEXT REQUEST message to which the UE shall reply with a MODIFY PDP CONTEXT ACCEPT message to ensure the context has been set up.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DETACH REQUEST	Only sent if the UE attaches at power-up, if not go to step 3.
2	→		DETACH ACCEPT	UE accepts the detach
3	UE			Initiate a context activation
4	→		ATTACH REQUEST	Request attach
5	←		ATTACH ACCEPT	Accept attach
6	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
7	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation
8	SS			Wait for T3380 seconds to ensure no further activate request messages come from the UE
9	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	SS sends a modify request to UE for the activated context
10	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	UE accepts the modification request from the network to show context is activated

Specific message contents

None.

11.1.1.1.5 Test requirements

~~To pass~~ When requesting a PDP context activation, the ~~test~~ UE ~~has to~~shall:

- initiate a PS ATTACH if one is not already active
- when the ~~network~~ SS responds to a PDP context activation request, initiated by the UE, with the requested QoS, the UE ~~has to~~shall complete the PDP context activation procedure. To check if the PDP context activation was successful, SS shall request PDP context modification and UE shall accept it.

11.1.1.2 QoS offered by the network is a lower QoS

11.1.1.2.1 QoS accepted by UE

11.1.1.2.1.1 Definition

11.1.1.2.1.2 Conformance requirement

In order to request a PDP context activation, the UE sends an ACTIVATE PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. If the QoS offered by the network is acceptable to UE, then upon receipt of the message ACTIVATE PDP CONTEXT ACCEPT, the UE shall stop timer T3380.

In GSM, the MS shall initiate establishment of the logical link for the LLC SAPI indicated by the network with the offered QoS and selected radio priority level, if no logical link has been already established for that SAPI.

In UMTS, both the network and the MS shall store the LLC SAPI and the radio priority in the PDP context.

Reference

3G TS 24.008 sub-clause 6.1.3.1.1.

11.1.1.2.1.3 Test purpose

To test the behaviour of the UE when the SS responds to a PDP context activation request with a lower QoS than that requested.

11.1.1.2.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of context activation

Test procedure

The requested QoS and Minimum QoS are set. A context activation is requested by the user. On receipt of the ACTIVATE PDP CONTEXT REQUEST message an ACTIVATE PDP CONTEXT ACCEPT is returned by the SS with ~~a~~ QoS lower than the requested but higher than or equal to the minimum. The SS then sends a MODIFY PDP CONTEXT REQUEST message and the UE shall respond with a MODIFY PDP CONTEXT ACCEPT message to confirm the context is active.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept a PDP context activation
4	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Send a modify request to UE for the activated context
5	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	Accept the modification request from network to show context is activated

Specific message contents

None.

11.1.1.2.1.5 Test requirements

To pass the test UE shall:

- ~~–~~when the ~~network~~ SS responds to a PDP context activation request, initiated by the UE, with the QoS lower than the requested but higher than or equal to the minimum, the UE ~~has to~~shall complete the PDP context activation procedure.

- ~~T~~to see if the PDP context activation was successful, SS shall request PDP context modification and UE shall accept it.

11.1.1.2.2 QoS rejected by UE

11.1.1.2.2.1 Definition

11.1.1.2.2.2 Conformance requirement

In order to request a PDP context activation, the UE sends an ACTIVATE PDP CONTEXT REQUEST message to the network.

Upon receipt of the message ACTIVATE PDP CONTEXT ACCEPT offering a QoS which is not acceptable to the UE, the UE shall initiate the PDP context deactivation procedure.

Reference

3G TS 24.008 sub-clause 6.1.3.1.1.

11.1.1.2.2.3 Test purpose

To test the behaviour of the UE when the QoS offered by SS in response to a PDP context activation request is not acceptable to the UE.

11.1.1.2.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of context activation

Test procedure

The requested QoS and Minimum QoS are set. A context activation is requested by the user. On receipt of the ACTIVATE PDP CONTEXT REQUEST message an ACTIVATE PDP CONTEXT ACCEPT message is returned by the SS with a QoS lower than the minimum. The UE shall then send a DEACTIVATE PDP CONTEXT REQUEST message. A DEACTIVATE PDP CONTEXT ACCEPT message will be sent in return by the SS.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation
4	→		DEACTIVATE PDP CONTEXT REQUEST	Deactivate the PDP context
5	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

None.

11.1.1.2.2.5 Test requirements

The UE shall reject the QoS offered by the ~~network~~ SS in response to a PDP context activation request, if the QoS is not acceptable to the UE.

11.1.2 PDP context activation requested by the network, successful and unsuccessful

11.1.2.1 Definition

This test needs to take into account the number of active PDP contexts supported simultaneously by the UE, to be able to test the response when all contexts are activated and the network tries to initiate a new context.

11.1.2.2 Conformance requirement

1) Upon receipt of a REQUEST PDP CONTEXT ACTIVATION message:

   - If the UE accepts the request the UE shall then initiate the PDP context activation procedure.
   - If the UE rejects the request, the UE shall send a REQUEST PDP CONTEXT ACTIVATION REJECT message with one of the following causes:

     #26: insufficient resources;

     #31: activation rejected, unspecified;

     #40: feature not supported; or

     #95 – 111: protocol errors.

2) The UE shall not ignore the request.

3) If the UE accepts the request, the ACTIVATE PDP CONTEXT REQUEST message sent by the UE shall contain the parameters requested by the network in the REQUEST PDP CONTEXT ACTIVATION message, except for the offered QoS which may be changed by the UE.

4) Whenever a REQUEST PDP CONTEXT ACTIVATION message is received by the UE specifying a transaction identifier relating to a PDP context not in state PDP-INACTIVE, the UE shall locally deactivate the old PDP context relating to the received transaction identifier. Furthermore, the UE shall continue with the activation procedure of a new PDP context as indicated in the received message.

Reference

3G TS 24.008 sub-clauses 6.1.3.1.2, 6.1.3.1.4 and 8.3.2.f)

3G TS 27.060 sub-clause 7.3.3.

11.1.2.3 Test purpose

To test the behaviour of the UE upon receipt of a context activation request from the SS.

11.1.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no

- Network requested PDP context activation supported yes/no
- Number of network initiated PDP contexts supported

Case 1

For a~~n~~ UE that supports PDP context activation requested by the network.

Test procedure

A REQUEST PDP CONTEXT ACTIVATION message is sent by the SS. On receipt of the ACTIVATE PDP CONTEXT REQUEST message an ACTIVATE PDP CONTEXT ACCEPT message is returned by the SS. If all 7 contexts are supported then steps 5, 6 and 7 should not be performed. This is continued until the maximum number of contexts the UE supports are activated. When one more context is activated the UE shall return a REQUEST PDP CONTEXT ACTIVATION REJECT message with cause set to 'insufficient resources'. A REQUEST PDP CONTEXT ACTIVATION message is then sent using a currently activated context transaction identifier. The UE shall activate this context in place of the previous context.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		REQUEST PDP CONTEXT ACTIVATION	SS sends Request a PDP context activation to UE
2	→		ACTIVATE PDP CONTEXT REQUEST	UE replies with a Request PDP context activation
3	←		ACTIVATE PDP CONTEXT ACCEPT	SS accepts the PDP context activation
4	SS			Steps 1-3 are repeated for the number of Network Initiated contexts supported NOTE: If all 7 contexts are supported steps 5, 6 and 7 should not be performed
5	←		REQUEST PDP CONTEXT ACTIVATION	SS requests a PDP context activation
6	→		REQUEST PDP CONTEXT ACTIVATION REJECT	The context activation request is rejected with cause 'insufficient resources'.
7	←		REQUEST PDP CONTEXT ACTIVATION	SS requests a PDP context activation for an existing context with TI the same as one of the active PDP contexts
8	UE			UE locally deactivates the old PDP context with the same TI value
~~8~~9	→		ACTIVATE PDP CONTEXT REQUEST	UE ~~requests~~ continues with the activation of a new PDP context ~~activation~~ to replace ~~the existing~~ deactivated context
~~9~~10	←		ACTIVATE PDP CONTEXT ACCEPT	SS accepts the PDP context activation

Case 2

For an UE that does not support PDP context activation requested by the network.

Test procedure

A REQUEST PDP CONTEXT ACTIVATION message is sent by the SS. The UE shall then send a~~n~~ REQUEST PDP CONTEXT ACTIVATION REJECT message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		REQUEST PDP CONTEXT ACTIVATION	Request a PDP context activation
2	→		REQUEST PDP CONTEXT ACTIVATION REJECT	Reject the PDP context activation request with cause 'insufficient resources' or 'feature not supported'.

Specific message contents

~~None.~~NOTE 1: TI IE value is equal to the TI value of one of the active PDP contexts, Offered PDP address IE value and/or Access point name IE value are (is) different from the corresponding IE value(s) in the existing PDP context

11.1.2.5 Test requirements

~~An~~ The UE that is configured to support one or more PDP contexts simultaneously shall:

- accept PDP context activation initiated by the SS if~~, with a~~ number of active contexts is lower than the maximum.~~, shall accept PDP context activation initiated by the network.~~
- locally deactivate the old PDP context when a REQUEST PDP CONTEXT ACTIVATION message is received, specifying a transaction identifier relating to an active PDP context and continue with the activation procedure of a new PDP context as indicated in the received message.

The UE that does not support PDP Context Activation (a number of active contexts supported by the UE is equal to maximum or UE does not support PDP context) shall reject PDP context activation initiated by the ~~network~~SS.

11.1.3 Abnormal Cases

11.1.3.1 T3380 Expiry

11.1.3.1.1 Definition

11.1.3.1.2 Conformance requirement

1) On the first expiry of the timer T3380, the UE shall re-send the PDP CONTEXT ACTIVATION REQUEST
2) On the second expiry of the timer T3380, the UE shall re-send the PDP CONTEXT ACTIVATION REQUEST
3) On the third expiry of the timer T3380, the UE shall re-send the PDP CONTEXT ACTIVATION REQUEST
4) On the fourth expiry of the timer T3380, the UE shall re-send the PDP CONTEXT ACTIVATION REQUEST
5) On the fifth expiry of the timer T3380, the UE shall release all resources possibly allocated for this invocation and shall abort the procedure; no automatic PDP context activation re-attempt shall be performed.

Reference

3G TS 24.008 sub-clause 6.1.3.1.5 a).

11.1.3.1.3 Test purpose

To test the behaviour of the UE when the SS does not reply to PDP CONTEXT ACTIVATION REQUEST.

11.1.3.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a context

Test procedure

A context activation is requested by the user. The UE shall send the ACTIVATE PDP CONTEXT REQUEST message five times with T3380 seconds between each message. After this, no further ACTIVATE PDP CONTEXT REQUEST messages shall be sent by the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
3		SS		T3380 seconds
4	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
5		SS		T3380 seconds
6	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
7		SS		T3380 seconds
8	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
9		SS		T3380 seconds
10	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
11		SS		Wait for T3380 seconds to ensure no further ACTIVATE PDP CONTEXT REQUEST messages are sent by the UE

Specific message contents

None.

11.1.3.1.5 Test requirements

UE shall re-send the ACTIVATE PDP CONTEXT REQUEST to SS five times in order to initiate PDP context, with expiry of timer T3380 between messages. After fifth try, UE shall send no more ACTIVATE PDP CONTEXT REQUEST to SS.

11.1.3.2 Collision of UE initiated and network requested PDP context activation

11.1.3.2.1 Definition

This test needs to take into account the number of PDP contexts supported by the UE, to be able to test the response when the network tries to initiate a new context.

11.1.3.2.2 Conformance requirement

A collision of ~~an Ms~~a UE initiated and a network requested PDP context activation procedure is identified by the ~~MS~~ UE if a REQUEST PDP CONTEXT ACTIVATION message is received from the network after the ~~MS~~ UE has sent an ACTIVATE PDP CONTEXT REQUEST message, and the ~~MS~~ UE has not yet received an ACTIVATE PDP CONTEXT ACCEPT or ACTIVATE PDP CONTEXT REJECT message.

Reference

3G TS 24.008 sub-clause 6.1.3.1.5 b), case: Static PDP address collision detected within the UE.

11.1.3.2.3 Test purpose

To test the behaviour of the UE when there is a collision between an UE initiated and ~~SS~~ network requested PDP context activation detected by the UE.

11.1.3.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of PDP context activation

Case 1

For an UE that supports PDP context activation requested by the network.

Test procedure

A context activation is requested by the user. After receipt of the ACTIVATE PDP CONTEXT REQUEST message the SS sends a REQUEST PDP CONTEXT ACTIVATION message followed by an ACTIVATE PDP CONTEXT ACCEPT message in a time less than T3380 (Use T3380/2). The UE shall send no messages within this time.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
3	←		REQUEST PDP CONTEXT ACTIVATION	Request a PDP context activation request
4	SS			Wait for T3380/2 seconds to ensure UE does not re-send ACTIVATE PDP CONTEXT REQUEST
5	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation

Case 2

For a~~n~~ UE that does not support PDP context activation requested by the network.

Test procedure

A context activation is requested by the user. After receipt of the ACTIVATE PDP CONTEXT REQUEST message the SS sends a REQUEST PDP CONTEXT ACTIVATION message. The UE shall send a REQUEST PDP CONTEXT ACTIVATION REJECT message with cause set to 'insufficient resources' or 'feature not supported'. The SS then sends an ACTIVATE PDP CONTEXT ACCEPT.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Request a PDP context activation
3	←		REQUEST PDP CONTEXT ACTIVATION	Request a PDP context activation ~~request~~
4	→		REQUEST PDP CONTEXT ACTIVATION REJECT	Cause set to 'insufficient resources' or 'feature not supported'.
5	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation

Specific message contents

None.

11.1.3.2.5 Test requirements

In the case of such collision,

- the UE that supports PDP context activation requested by the network shall discard the REQUEST PDP CONTEXT ACTIVATION message from SS and wait for an ACTIVATE PDP CONTEXT ACCEPT message.

- the UE that does not support PDP context activation requested by the network shall reject PDP context activation initiated by the SS.

11.1.3.3 Network initiated PDP context activation request for an already activated PDP context (on the UE side)

11.1.3.3.1 Definition

11.1.3.3.2 Conformance requirement

If the UE receives a REQUEST PDP CONTEXT ACTIVATION message with the same combination of APN, PDP type and PDP address as an already activated PDP context, the UE shall deactivate the existing PDP context and, if any, all the linked PDP contexts (matching the combination of APN, PDP type and PDP address) locally without notification to the network and proceed with the requested PDP context activation.

Reference

3G TS 24.008 sub-clause 6.1.3.1.5 d).

11.1.3.3.3 Test purpose

To test the behaviour of the UE when it detects a network initiated PDP context activation for the PDP context already activated on the UE side.

11.1.3.3.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of PDP context activation

Test procedure

A PDP context activation is requested by the user. SS accepts PDP context activation. A secondary PDP context activation is requested by the user. SS accepts secondary PDP context activation. SS sends a REQUEST PDP CONTEXT ACTIVATION message with the same combination of APN, PDP type and PDP address as an already activated PDP context. The UE deactivates the existing PDP context and linked secondary PDP context (matching the combination of APN, PDP type and PDP address) locally without notification to the SS and proceeds with the requested PDP context activation.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	UE requests a PDP context activation
3	←		ACTIVATE PDP CONTEXT ACCEPT	SS accepts the PDP context activation
4	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	UE requests a secondary PDP context activation
5	←		ACTIVATE SECONDARY PDP CONTEXT ACCEPT	SS accepts the secondary PDP context activation
6	←		REQUEST PDP CONTEXT ACTIVATION	SS requests a PDP context activation with the same combination of APN, PDP type and PDP address as the activated PDP context
7	UE			UE locally deactivates the activated PDP context and the secondary PDP context
9	→		ACTIVATE PDP CONTEXT REQUEST	UE replies with a Request PDP context activation
10	←		ACTIVATE PDP CONTEXT ACCEPT	SS accepts the PDP context activation

Specific message contents

None.

11.1.3.3.5 Test requirements

When inconsistency of PDP context between the UE and network is detected by the UE, then local synchronisation procedure shall be initiated in the UE. The PDP context and all (if any) linked contexts are implicitly deactivated and the new request shall be proceeded.

11.1.4 Secondary PDP context activation procedures

11.1.4.1 Successful Secondary PDP Context Activation Procedure Initiated by the UE

11.1.4.1.1 QoS Offered by Network is the QoS Requested

11.1.4.1.1.1 Definition

11.1.4.1.1.2 Conformance requirement

In order to request a secondary PDP context activation, the UE sends an ACTIVATE SECONDARY PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. The message contains the selected NSAPI, a QoS profile, a requested LLC SAPI and the linked TI.

If the QoS offered by the network is the same as the QoS requested by the UE, then upon receipt of the message ACTIVATE SECONDARY PDP CONTEXT ACCEPT, the UE shall stop timer T3380.

In GSM the UE shall initiate establishment of the logical link for the LLC SAPI indicated by the network, with the offered QoS and selected radio priority level, if no logical link has been already established for that SAPI.

Although not used in UMTS, LLC SAPI shall be included in the messages, in order to support handover between UMTS and GSM networks.

Reference

3G TS 24.008 sub-clauses 6.1.3.2 and 6.1.3.2.1.

11.1.4.1.1.3 Test purpose

To test the behaviour of the UE when SS responds to a Secondary PDP context activation request with the requested QoS.

11.1.4.1.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE and is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of context activation

Test procedure

A PDP context activation is requested by the user and accepted by the SS. A secondary PDP context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message an ACTIVATE SECONDARY PDP CONTEXT ACCEPT is returned by the SS with the same requested QoS. The SS then waits for T3380 seconds to ensure T3380 has been stopped and no more ACTIVATE SECONDARY PDP CONREXT REQUEST messages are sent by the UE. The SS then sends a MODIFY PDP CONTEXT REQUEST message to which the UE shall reply with a MODIFY PDP CONTEXT ACCEPT message to ensure the context has been set up.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a secondary PDP context activation
~~1~~5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
~~2~~6	←		ACTIVATE SECONDARY PDP CONTEXT ACCEPT	Accept the Secondary PDP context activation
~~3~~7		SS		Wait for T3380 seconds to ensure no further activate request messages come from the UE
~~4~~8	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	SS sends a modify request to UE for the activated context
~~5~~9	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	UE accepts the modification request from the network to show context is activated

Specific message contents

The *Linked TI* information element in ACTIVATE SECONDARY PDP CONTEXT REQUEST message specifies the TI for the PDP context already activated. The PDP address for the secondary PDP context can be derived from *Linked TI* by the SS.

~~None~~.

11.1.4.1.1.5 Test requirements

To pass the test the UE ~~has to~~shall:

- when the ~~network~~ SS responds to a Secondary PDP context activation request initiated by the UE, with the requested QoS, the UE shall complete the Secondary PDP context activation procedure. To check if the Secondary PDP context activation was successful, SS shall request PDP context modification and UE shall accept it.

11.1.4.1.2 QoS Offered by Network is a lower QoS

11.1.4.1.2.1 QoS accepted by UE

11.1.4.1.2.1.1 Definition

11.1.4.1.2.1.2 Conformance requirement

In order to request a Secondary PDP context activation, the UE sends an ACTIVATE SECONDARY PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. If the QoS offered by the network is acceptable to UE, then upon receipt of the message ACTIVATE SECONDARY PDP CONTEXT ACCEPT the UE shall stop timer T3380.

In GSM the UE shall initiate establishment of the logical link for the LLC SAPI indicated by the network, with the offered QoS and selected radio priority level, if no logical link has been already established for that SAPI.

Reference

3G TS 24.008 sub-clauses 6.1.3.2 and 6.1.3.2.1.

11.1.4.1.2.1.3 Test purpose

To test the behaviour of the UE when the SS responds to a Secondary PDP context activation request with a lower QoS than that requested.

11.1.4.1.2.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- User setting of Minimum QoS supported yes/no

- Method of setting minimum QoS
- Method of context activation

Test procedure

The requested QoS and Minimum QoS are set. A PDP context activation is requested by the user and accepted by the SS. A secondary context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message an ACTIVATE SECONDARY PDP CONTEXT ACCEPT is returned by the SS with a QoS lower than the requested but higher than or equal to the minimum. The SS then sends a MODIFY PDP CONTEXT REQUEST message and the UE shall respond with a MODIFY PDP CONTEXT ACCEPT message to confirm the context is active.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
~~1~~4	UE			Initiate a secondary PDP context activation
~~2~~5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondat~~ur~~y PDP context activation
~~3~~6	←		ACTIVATE SECONDARY PDP CONTEXT ACCEPT	Accept a Secondary PDP context activation
~~4~~7	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Send a modify request to UE for the activated context
~~5~~8	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	Accept the modification request from network to show context is activated

Specific message contents

None.

11.1.4.1.2.1.5 Test requirements

To pass the test ~~UE shall:~~

~~-~~when the ~~network~~ SS responds to a Secondary PDP context activation request, initiated by the UE, with the QoS lower than the requested but higher than or equal to the minimum, the UE shall complete the Secondary PDP context activation procedure. To see if the PDP context activation was successful, SS shall request PDP context modification and UE shall accept it.

11.1.4.1.2.2 QoS rejected by UE

11.1.4.1.2.2.1 Definition

11.1.4.1.2.2.2 Conformance requirement

In order to request a Secondary PDP context activation, the UE sends an ACTIVATE SECONDARY PDP CONTEXT REQUEST message to the network.

Upon receipt of the message ACTIVATE SECONDARY PDP CONTEXT ACCEPT offering a QoS which is not acceptable to the UE, the UE shall initiate the PDP context deactivation procedure.

Reference

3G TS 24.008 sub-clauses 6.1.3.2 and 6.1.3.2.1.

11.1.4.1.2.2.3 Test purpose

To test the behaviour of the UE when the QoS, offered by SS in response to a Secondary PDP context activation request is not acceptable to the UE.

11.1.4.1.2.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS

  Method of context activation

Test procedure

The requested QoS and Minimum QoS are set. A PDP context activation is requested by the user and accepted by the SS. A secondary PDP context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message an ACTIVATE SECONDARY PDP CONTEXT ACCEPT message is returned by the SS with ~~a~~the QoS lower than the minimum. The UE shall then send a DEACTIVATE PDP CONTEXT REQUEST message for the secondary PDP context. A DEACTIVATE PDP CONTEXT ACCEPT message will be sent in return by the SS.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
~~1~~4	UE			Initiate a secondary PDP context activation
~~2~~5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
~~3~~6	←		ACTIVATE SECONDARY PDP CONTEXT ACCEPT	Accept the Secondary PDP context activation with QoS lower than Minimum QoS
~~4~~7	→		DEACTIVATE PDP CONTEXT REQUEST	Request deactivation of the secondary PDP context
~~5~~8	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

Tear down indicator IE shall not be included in the DEACTIVATE PDP CONTEXT REQUEST message because only the PDP context for this specific TI shall be deactivated.

11.1.4.1.2.5 Test requirements

The UE shall reject the QoS offered by the ~~network~~ SS in response to a Secondary PDP context activation request, if the QoS is not acceptable to the UE.

11.1.4.2 Unsuccessful Secondary PDP Context Activation Procedure Initiated by the UE

11.1.4.2.1 Definition

11.1.4.2.2 Conformance requirement

Upon receipt of an ACTIVATE SECONDARY PDP CONTEXT REQUEST message, the network may reject the UE initiated PDP context activation by sending an ACTIVATE SECONDARY PDP CONTEXT REJECT message to the UE. Upon receipt of an ACTIVATE SECONDARY PDP CONTEXT REJECT message, the UE shall stop timer T3380 and enter the state PDP-INACTIVE.

Reference

3G TS 24.008 sub-clauses 6.1.3.2 and 6.1.3.2.2.

11.1.4.2.3 Test purpose

To test the behaviour of the UE when network rejects the UE initiated Secondary PDP context activation.

11.1.4.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE and is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of context activation

Test procedure

A PDP context activation is requested by the user and accepted by the SS. A secondary context activation is requested by the user. On receipt of the ACTIVATE SECONDARY PDP CONTEXT REQUEST message from the UE, an ACTIVATE SECONDARY PDP CONTEXT REJECT with cause #43 'unknown PDP context' is returned by the SS. SS shall wait for T3380 seconds to ensure that the UE sends no more ACTIVATE SECONDARY PDP CONTEXT REQUEST messages.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a secondary PDP context activation
5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
6	←		ACTIVATE SECONDARY PDP CONTEXT REJECT	SS rejects the Secondary PDP context activation with cause '#43: unknown PDP context'
7	SS			Wait for T3380 seconds to ensure no further activate request messages come from the UE

Specific message contents

Step 5. The *Linked TI* information element specifies the TI which is different from the TI in the PDP context activated in steps 1-3.

11.1.4.2.5 Test requirements

After a secondary PDP context activation being rejected by the network, the UE shall not re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST message.

11.1.4.~~2~~3 Abnormal cases

11.1.4.~~2~~3.1 T3380 Expiry

11.1.4.~~2~~3.1.1 Definition

11.1.4.~~2~~3.1.2 Conformance requirement

1) On the first expiry of the timer T3380, the UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST
2) On the second expiry of the timer T3380, the UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST

3) On the third expiry of the timer T3380, the UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST

4) On the fourth expiry of the timer T3380, the UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST

5) On the fifth expiry of the timer T3380, the UE shall release all resources possibly allocated for this invocation and shall abort the procedure; no automatic secondary PDP context activation re-attempt shall be performed.

Reference

3G TS 24.008 sub-clause 6.1.3.2.3 a).

11.1.4.~~2~~3.1.3 Test purpose

To test the behaviour of the UE when the SS does not reply to ACTIVATE SECONDARY PDP CONTEXT REQUEST message.

11.1.4.~~2~~3.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a context

Test procedure

A PDP context is activated by the user and accepted by the SS. A secondary PDP context activation is requested by the user. The UE shall send ACTIVATE SECONDARY PDP CONTEXT REQUEST message five times with T3380 seconds between each message. After this no further ACTIVATE SECONDARY PDP CONTEXT REQUEST messages shall be sent by the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
~~1~~4	UE			Initiate a secondary PDP context activation
~~2~~5	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request a Secondary PDP context activation
~~3~~6		SS		T3380 seconds
~~4~~7	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request ~~a~~the Secondary PDP context activation
~~5~~8		SS		T3380 seconds
~~6~~9	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request ~~a~~ the Secondary PDP context activation
~~7~~10		SS		T3380 seconds
~~8~~11	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request ~~a~~ the Secondary PDP context activation
~~9~~12		SS		T3380 seconds
~~10~~13	→		ACTIVATE SECONDARY PDP CONTEXT REQUEST	Request ~~a~~ the Secondary PDP context activation
~~11~~14		SS		Wait for T3380 seconds to ensure no further ACTIVATE SECONDARY PDP CONTEXT REQUEST messages are sent by the UE

Specific message contents

None.

11.1.4.~~2~~3.1.5 Test requirements

UE shall re-send the ACTIVATE SECONDARY PDP CONTEXT REQUEST to SS five times in order to initiate a Secondary PDP context, with expiry of timer T3380 between messages. After fifth try, UE shall send no more ACTIVATE SECONDARY PDP CONTEXT REQUEST messages to SS.

~~Editor's note: This heading is deleted because it is related to the network function.~~

11.2 PDP context modification procedure

11.2.1 Network initiated PDP context modification

11.2.1.1 Definition

This test can only be performed if minimum QoS can be set by the user.

11.2.1.2 Conformance requirement

1) Upon receipt of a MODIFY PDP CONTEXT REQUEST message

- If the UE can accept the modification requested, the UE shall reply with the MODIFY PDP CONTEXT ACCEPT message.
- If the UE is unable to accept the modification requested, the UE shall initiate the PDP context deactivation procedure for the NSAPI that has been indicated in the message MODIFY PDP CONTEXT REQUEST - the

reject cause IE value of the DEACTIVATE PDP CONTEXT REQUEST message shall indicate “QoS not accepted”.

2) The UE shall either accept the modification request or deactivate the PDP context, it shall not ignore the modification request.

Reference

3G TS 24.008 sub-clauses 6.1.3.3 and 6.1.3.3.1.

11.2.1.3 Test purpose

To test the behaviour of the UE upon receipt of a MODIFY PDP CONTEXT REQUEST message from SS.

11.2.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of activating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. A MODIFY PDP CONTEXT REQUEST message is then sent to the UE with a QoS that is acceptable to the UE (higher than or equal to the minimum QoS set in the UE). The UE shall send a MODIFY PDP CONTEXT ACCEPT message in return. A MODIFY PDP CONTEXT REQUEST message is then sent to the UE with a QoS that is not acceptable to the UE (lower than the minimum QoS set in the UE). The UE shall send a DEACTIVATE PDP CONTEXT REQUEST message in return.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate ~~a~~the PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Request the modification of a PDP context, with QoS higher than or equal to the minimum QoS set in the UE
5	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	Accept the PDP context modification
6	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Request the modification of a PDP context, QoS lower than the minimum QoS set in the UE
7	→		DEACTIVATE PDP CONTEXT REQUEST	Initiate the PDP context deactivation. ~~'Reject the PDP context modification by deactivating the PDP context~~. Cause set to 'QoS not acceptable'
8	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

None.

11.2.1.5 Test requirements

The UE shall:

- Accept PDP context modification initiated by the SS if QoS is higher than or equal to the minimum QoS set in the UE
- Reject PDP context modification initiated by the SS if QoS is lower than the minimum QoS set in the UE.

11.2.2 UE initiated PDP context modification ~~(FFS)~~

11.2.2.1 UE initiated PDP Context Modification accepted by network

11.2.2.1.1 Definition

This test can only be performed if minimum QoS can be set by the user.

11.2.2.1.2 Conformance requirement

In order to initiate the procedure, the UE sends the MODIFY PDP CONTEXT REQUEST message to the network, enters the state PDP-MODIFY-PENDING and starts timer T3381. The message may contain the requested new QoS and/or the TFT and the requested LLC SAPI (used in GSM).

Upon receipt of the MODIFY PDP CONTEXT REQUEST message, the network may reply with the MODIFY PDP CONTEXT ACCEPT message in order to accept the context modification. The reply message may contain the negotiated QoS and the radio priority level based on the new QoS profile and the negotiated LLC SAPI, that shall be used in GSM by the logical link.

Upon receipt of the MODIFY PDP CONTEXT ACCEPT message, the UE shall stop the timer T3381. If the offered QoS parameters received from the network differs from the QoS requested by the UE, the UE shall either accept the negotiated QoS or initiate the PDP context deactivation procedure.

Reference

3G TS 24.008 sub-clauses 6.1.3.3 and 6.1.3.3.2.

11.2.2.1.3 Test purpose

To test the behaviour of the UE upon receipt of a MODIFY PDP CONTEXT ACCEPT message from the network with

- Requested QoS,
- QoS higher than or equal to the minimum QoS set in the UE
- QoS lower than the minimum QoS set in the UE.

11.2.2.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of activating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. The UE initiates a PDP context modification by sending a MODIFY PDP CONTEXT REQUEST message with new QoS. The SS accepts the context modification and replies with the MODIFY PDP CONTEXT ACCEPT message with the QoS requested.

Than the UE initiates new PDP context modification with higher QoS. The SS is unable to provide requested QoS, so it repies by sending MODIFY PDP CONTEXT ACCEPT message with new QoS that is lower than requested but still acceptable to the UE (higher than or equal to the minimum QoS set in the UE).

Than the UE initiates new PDP context modification with new QoS. The SS is unable to provide requested QoS, so it replies by sending MODIFY PDP CONTEXT ACCEPT message with QoS that is not acceptable to the UE (lower than the minimum QoS set in the UE). The UE shall send a DEACTIVATE PDP CONTEXT REQUEST message in return and SS shall respond with a DEACTIVATE PDP CONTEXT ACCEPT message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request the modification of a PDP context, with new QoS
5	←		MODIFY PDP CONTEXT ACCEPT (NETWORK TO UE DIRECTION)	Accept the PDP context modification with QoS requested
6	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request the modification of a PDP context, with new QoS
7	←		MODIFY PDP CONTEXT ACCEPT (NETWORK TO UE DIRECTION)	Accept the PDP context modification with QoS higher than the minimum QoS set in UE
8	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request the modification of a PDP context, with new QoS
9	←		MODIFY PDP CONTEXT ACCEPT (NETWORK TO UE DIRECTION)	Accept the PDP context modification with QoS lower than the minimum QoS set in UE
10	→		DEACTIVATE PDP CONTEXT REQUEST	Initiate the PDP context deactivation. Cause set to 'QoS not acceptable'
11	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

None.

11.2.2.1.5 Test requirements

When requesting the PDP context modification, the UE shall:

- Modify the PDP context if SS replied with the requested QoS
- Modify the PDP context if SS replied with the acceptable QoS
- Deactivate the PDP context if SS replied with the QoS not acceptable to UE,

11.2.2.2 UE initiated PDP Context Modification not accepted by the network

11.2.2.2.1 Definition

This test can only be performed if minimum QoS can be set by the user.

11.2.2.2.2 Conformance requirement

In order to initiate the procedure, the MS sends the MODIFY PDP CONTEXT REQUEST message to the network, enters the state PDP-MODIFY-PENDING and starts timer T3381. The message may contain the requested new QoS and/or the TFT and the requested LLC SAPI (used in GSM).

Upon receipt of a MODIFY PDP CONTEXT REQUEST message, the network may reject the MS initiated PDP context modification request by sending a MODIFY PDP CONTEXT REJECT message to the MS. The message shall contain a cause code that typically indicates one of the following:

26: insufficient resources;

32: Service option not supported;

41: semantic error in the TFT operation;

42: syntactical error in the TFT operation;

44: semantic errors in packet filter(s);

45: syntactical errors in packet filter(s);

95 - 111: protocol errors.

Upon receipt of a MODIFY PDP CONTEXT REJECT message, the MS shall stop timer T3381 and enter the state PDP-ACTIVE.

Reference

3G TS 24.008 sub-clauses 6.1.3.3, 6.1.3.3.2 and 6.1.3.3.3.

11.2.2.2.3 Test purpose

To test the behaviour of the UE upon receipt of a MODIFY PDP CONTEXT REJECT message from the network.

11.2.2.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- User setting of Minimum QoS supported yes/no
- Method of setting minimum QoS
- Method of activating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. The UE initiates a PDP context modification by sending a MODIFY PDP CONTEXT REQUEST message. The SS rejects the context modification and replies with the MODIFY PDP CONTEXT REJECT with cause set to (FFS).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request the modification of a PDP context
5	←		MODIFY PDP CONTEXT REJECT	SS rejects PDP context modification

Specific message contents

Step 4. FFS.

Step 5. FFS.

11.2.2.2.5 Test requirements

FFS.

11.2.3 Abnormal cases ~~(FFS)~~

11.2.3.1 T3381 Eexpiry

11.2.3.1.1 Definition

11.2.3.1.2 Conformance requirement

On the first expiry of timer T3381, the UE shall re-send the MODIFY PDP CONTEXT REQUEST message, reset and restart timer T3381. This retransmission is repeated four times, i.e. on the fifth expiry of timer T3381, the MS may UE continue to use the previously negotiated QoS or it may initiate the PDP context deactivation procedure.

Reference

3G TS 24.008 sub-clause 6.1.3.3.4 a) case: In the UE.

11.2.3.1.3 Test purpose

To test the behaviour of the UE when network does not reply to MODIFY PDP CONTEXT REQUEST message.

11.2.3.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a PDP context

Test procedure

A PDP context activation is requested by the user and accepted by the SS. The UE shall send MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) message five times with T3381 seconds between each message. After this no further MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages shall be sent by the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
5		SS		T3381 seconds
6	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
7		SS		T3381 seconds
8	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
9		SS		T3381 seconds
10	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
11		SS		T3381 seconds
12	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context, with new QoS
13		SS		Wait for T3381 seconds to ensure no further MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages are sent by the UE

Specific message contents

None.

11.1.4.3.1.5 Test requirements

UE shall re-send the MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) to SS five times in order to initiate the PDP context modification, with expiry of timer T3381 between messages. After fifth try, UE shall send no more MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION) messages to SS.

11.2.3.2 Collision of UE and network initiated PDP context modification procedures

11.2.3.2.1 Definition

11.2.3.2.2 Conformance requirement

A collision of a UE and network initiated PDP context modification procedures is identified by the UE if a MODIFY PDP CONTEXT REQUEST message is received from the network after the UE has sent a MODIFY PDP CONTEXT REQUEST message itself, and both messages contain the same TI and the UE has not yet received a MODIFY PDP CONTEXT ACCEPT message from the network.

In the case of such a collision, the network initiated PDP context modification shall take precedence over the UE initiated PDP context modification. The UE shall terminate internally the UE initiated PDP context modification procedure, enter the state PDP-ACTIVE and proceed with the network initiated PDP context modification procedure by sending a MODIFY PDP CONTEXT ACCEPT message.

Reference

3G TS 24.008 sub-clause 6.1.3.3.4 b).

11.2.3.2.3 Test purpose

To test behaviour of the UE when it identifies collision of the UE and network initiated PDP context modification with the same TI.

11.2.3.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. The UE initiates a PDP context modification by sending a MODIFY PDP CONTEXT REQUEST message. Then the SS initiates the PDP context modification by sending MODIFY PDP CONTEXT REQUEST message with the same TI. The UE shall reply to the SS initiated PDP context modification procedure by sending MODIFY PDP CONTEXT ACCEPT message with the same TI.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a PDP context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context activation
4	→		MODIFY PDP CONTEXT REQUEST (UE TO NETWORK DIRECTION)	Request modification of the PDP context
5	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Request modification of the PDP context with the same TI
6	UE			UE identifies collision, terminates internally the UE initiated PDP context modification procedure
7	→		MODIFY PDP CONTEXT ACCEPT (UE TO NETWORK DIRECTION)	Accept SS initiated PDP context modification

Specific message contents

Steps 4 and 5 - The TI IE value is the same, with TI flag set to "0" identifying both, the UE and the network, as transaction initiator. TI flag indicates to the UE that it is attempting to allocate the same TI value simultaneously with the SS.

Step 7 - The TI flag set to "1" indicating that the message belongs to the transaction initiated by the other side, in this case SS.

Steps 4, 5 and 7 - Bit7, Bit6 and Bit5 of the TI IE are the same.

Editor's Note: The transaction identifier and its use are defined in TS 24.007.

11.2.3.2.5 Test requirements

In step 6, the UE shall terminate internally the UE initiated PDP context modification procedure and proceed with SS initiated PDP context modification.

11.3 PDP context deactivation procedure

11.3.1 PDP context deactivation initiated by the UE

11.3.1.1 Definition

11.3.1.2 Conformance requirement

The DEACTIVATE PDP CONTEXT REQUEST message sent by UE contains the transaction identifier in use for the PDP context to be deactivated and a cause code that typically indicates one of the following causes:

- #25: LLC or SNDCP failure(GSM only) ;
- #26: insufficient resources;
- #36: regular PDP context deactivation; or
- #37: QoS not accepted.

Upon receipt of the DEACTIVATE PDP CONTEXT ACCEPT message, the UE shall stop timer T3390.

- Whenever any session management message except REQUEST PDP CONTEXT ACTIVATION or SM-STATUS is received by the UE specifying a transaction identifier which is not recognised as relating to an active context or to a context that is in the process of activation or deactivation or has been [recently] deactivated, the UE shall send a SM-STATUS message with cause #81 “invalid transaction identifier value” using the received transaction identifier value including the extension octet and remain in the PDP-INACTIVE state.

Reference

3G TS 24.008 sub-clauses 6.1.3.4-, 6.1.3.4.1 and 8.3.2 (b).

11.3.1.3 Test purpose

To test the behaviour of the UE upon receipt of a DEACTIVATE PDP CONTEXT ACCEPT message from the SS in PDP context deactivation procedure initiated by the UE.

11.3.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a PDP context
- Method of deactivating the PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. The context deactivation is then requested by the user. The UE shall send a DEACTIVATE PDP CONTEXT REQUEST message to the SS. The SS shall then reply with a DEACTIVATE PDP CONTEXT ACCEPT message. The SS shall then wait for T3390 seconds to ensure T3390 has been stopped and that no further messages are sent from the UE. The SS shall then send a MODIFY PDP CONTEXT REQUEST for the deactivated context and the UE shall reply with an SM STATUS message with cause #81 ’transaction identifier not known’.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a context deactivation
5	→		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
6	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation
7	SS			Wait for T3390 seconds to ensure no further deactivate request messages are sent
8	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Send a modify request to UE for the deactivated context.
9	→		SM STATUS	Cause set to #81

Specific message contents

None.

11.3.1.5 Test requirements

In PDP context deactivation procedure initiated by the UE, upon receipt of a DEACTIVATE PDP CONTEXT ACCEPT message from the SS, the UE shall deactivate PDP context associated with given PDP address and TI.

Then, upon modification procedure initiated by the network, for deactivated PDP context, UE shall reply with SM STATUS message with cause #81.

11.3.2 PDP context deactivation initiated by the network

11.3.2.1 Definition

11.3.2.2 Conformance requirement

The DEACTIVATE PDP CONTEXT REQUEST message sent by SS contains the transaction identifier in use for the PDP context to be deactivated and a cause code that typically indicates one of the following causes:

25: LLC or SNDCP failure (GSM only);
36: regular PDP context deactivation;
38: network failure; or
39: reactivation requested.

The UE shall, upon receipt of the DEACTIVATE PDP CONTEXT REQUEST message from network, reply with a DEACTIVATE PDP CONTEXT ACCEPT message.

- Whenever any session management message except REQUEST PDP CONTEXT ACTIVATION or SM-STATUS is received by the UE specifying a transaction identifier which is not recognised as relating to an active context or to a context that is in the process of activation or deactivation or has been [recently] deactivated, the UE shall send a SM-STATUS message with cause #81 “invalid transaction identifier value” using the received transaction identifier value and remain in the PDP-INACTIVE state.

Reference

3G TS 24.008 subclauses 6.1.3.4, 6.1.3.4.2 and 8.3.2 (b).

11.3.2.3 Test purpose

To test the behaviour of the UE upon receipt of a DEACTIVATE PDP CONTEXT REQUEST message from the SS.

11.3.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. A DEACTIVATE PDP CONTEXT REQUEST message is then sent by the SS. The UE shall reply with a DEACTIVATE PDP CONTEXT ACCEPT message. The SS shall then send a MODIFY PDP CONTEXT REQUEST for the deactivated context and the UE shall reply with an SM STATUS message with cause #81 'transaction identifier not known'.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	←		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
5	→		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation.
6	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Send a modify request to UE for the deactivated context.
7	→		SM STATUS	Cause set to #81

Specific message contents

None.

11.3.2.5 Test requirements

Upon receipt of a request for deactivation of a PDP context from the SS, the UE shall deactivate PDP context. Then, upon modification procedure initiated by the network, for deactivated PDP context, UE shall reply with SM STATUS message with cause #81.

11.3.3 Abnormal cases

11.3.3.1 T3390 Expiry

11.3.3.1.1 Definition

11.3.3.1.2 Conformance requirement

1) On the first expiry of timer T3390, the UE shall resend the message DEACTIVATE PDP CONTEXT REQUEST
2) On the second expiry of timer T3390, the UE shall resend the message DEACTIVATE PDP CONTEXT REQUEST
3) On the third expiry of timer T3390, the UE shall resend the message DEACTIVATE PDP CONTEXT REQUEST
4) On the fourth expiry of timer T3390, the UE shall resend the message DEACTIVATE PDP CONTEXT REQUEST
5) On the fifth expiry of timer T3390, the UE shall release all resources allocated and shall erase the PDP context related data.

Reference

3G TS 24.008 subclause 6.1.3.4.3 a) case In the UE.

11.3.3.1.3 Test purpose

To test the behaviour of the UE when the SS does not reply to a DEACTIVATE PDP CONTEXT REQUEST message from the UE.

11.3.3.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a PDP context
- Method of deactivating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. A context deactivation is then requested by the user. The UE shall send a DEACTIVATE PDP CONTEXT REQUEST message five times with T3390 seconds between each message. T3390 seconds after the fifth message the SS shall send a MODIFY PDP CONTEXT REQUEST message for the deactivated context and the UE shall reply with SM STATUS with cause set to #81 'Transaction identifier not known'.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a context deactivation
5	→		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
6	SS			T3390 seconds
7	→		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
8	SS			T3390 seconds
9	→		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
10	SS			T3390 seconds
11	→		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
12	SS			T3390 seconds
13	→		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
14	SS			Wait T3390 seconds
15	←		MODIFY PDP CONTEXT REQUEST (NETWORK TO UE DIRECTION)	Try to modify the deactivated context.
16	→		SM STATUS	Cause set to #81

Specific message contents

None.

11.3.3.1.5 Test requirements

If ~~network~~ SS does not reply to UE initiated PDP context deactivation procedure, the UE shall retransmit a DEACTIVATE PDP CONTEXT REQUEST five times, with T3390 timer expiry between the successive messages, before releasing resources allocated to the PDP context and deleting PDP context related data.

11.3.3.2 Collision of UE and network initiated PDP context deactivation requests

11.3.3.2.1 Definition

11.3.3.2.2 Conformance requirement

If the UE and the network initiated PDP context deactivation requests collide, the UE and the network shall each reply with the message DEACTIVATE PDP CONTEXT ACCEPT and shall stop timer T3390 and T3395, respectively.

Reference

3G TS 24.008 sub-clause 6.1.3.4.3 b).

11.3.3.2.3 Test purpose

To test the behaviour of the UE when there is a collision between an UE initiated and ~~SS~~ network initiated context deactivation.

11.3.3.2.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN

Related ICS/IXIT statements

- PS Supported yes/no
- Method of activating a PDP context
- Method of deactivating a PDP context

Test procedure

A PDP context is activated by the user and accepted by the SS. A context deactivation is then requested by the user. Upon receipt of the DEACTIVATE PDP CONTEXT REQUEST message the SS sends a DEACTIVATE PDP CONTEXT REQUEST message. The UE shall reply with only one DEACTIVATE PDP CONTEXT ACCEPT message. Upon receipt of this message the SS sends a DEACTIVATE PDP CONTEXT ACCEPT message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			Initiate a context activation
2	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context
3	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
4	UE			Initiate a context deactivation
5	→		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
6	←		DEACTIVATE PDP CONTEXT REQUEST	Request a deactivation of a PDP context
7	→		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation
8	←		DEACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context deactivation

Specific message contents

None.

11.3.3.2.5 Test requirements

When UE and SS initiate~~d~~s PDP context deactivation requests collide, the UE shall reply with DEACTIVATE PDP CONTEXT ACCEPT to the SS.

11.4 Unknown or Unforeseen Transaction Identifier/Non-semantical Mandatory Information Element Errors

11.4.1 Error cases

11.4.1.1 Definition

11.4.1.2 Conformance requirement

The mobile station shall ignore a session management message with TI EXT bit = 0. Otherwise, the following procedures shall apply:

- Whenever any session management message, except REQUEST PDP CONTEXT ACTIVATION or SM-STATUS, is received by the UE specifying a transaction identifier which is not recognized as relating to an active context or to a context that is in the process of activation or deactivation or has been [recently] deactivated, the UE shall send a SM-STATUS message with cause #81 “invalid transaction identifier value” using the received transaction identifier value including the extension octet and remain in the PDP-INACTIVE state.

- When a REQUEST PDP CONTEXT ACTIVATION message is received with a transaction identifier flag set to “1”, this message shall be ignored.

When on receipt of a message,

- an “imperative message part” error; or

- a “missing mandatory IE” error

is diagnosed or when a message containing:

- a syntactically incorrect mandatory IE; or

- an IE unknown in the message, but encoded as “comprehension required” or

- an out of sequence IE encoded as “comprehension required”

is received, the UE shall proceed as follows:

If the message was a SM message the SM-STATUS message with cause # 96 “invalid mandatory information” shall be returned.

If a mobile station receives a GMM message or SM message with message type not defined for the PD or not implemented by the receiver, it shall return a status message (GMM STATUS or SM STATUS depending on the protocol descriminator) with cause #97 ‘message type non-existent or not implemented’.

If the mobile station receives a message not compatible with the protocol state, the mobile station shall ignore the message except for the fact that when the message was a SM message the SM-STATUS message with cause #98 ‘Message type not compatible with protocol state’ shall be returned.

Other syntactic errors

This section applies to the analysis of the value part of an information element. It defines the following terminology:

- An IE is defined to be syntactically incorrect in a message if it contains at least one value defined as ‘reserved’, or if its value part violates syntactic rules given in the specification of the value part. However it is not a syntactical error that a type 4 standard IE specifies in its length indicator a greater length than possible according to the value part specification : extra bits are ignored.

Reference

3G TS 24.008 clauses 8.3.2 and 8.5 and 3G TS 24.007 clause 11.4.2.

11.4.1.3 Test purpose

To test the behaviour of the UE when messages with unknown or unforeseen transaction identifiers or non-semantical mandatory information element errors occur.

11.4.1.4 Method of test

Initial conditions

System Simulator:

1 cell, default parameters.

User Equipment:

The UE is in GMM-state "GMM-REGISTERED, normal service" with valid P-TMSI and CKSN.

Related ICS/IXIT statements

-

Test procedure

A PDP context activation is requested by the SS with the transaction identifier set to ’1’. The UE shall not respond to this request.

A PDP context is then activated from the UE. Two invalid accept messages are then sent by the SS with T3380 seconds between them. After a further T3380 seconds a valid accept message is sent by the SS.

A deactivate message is then sent from the SS with the transaction identifier set to ’111’. The UE shall reply with a SM STATUS message with transaction identifier set to ’111’.

A deactivate message is then sent from the SS with a different transaction identifier to the one used in the activate request message sent by the UE. The UE shall reply with a SM STATUS message with cause #81 ’invalid transaction identifier value’.

Three invalid modification messages are then sent to the UE in turn. The UE shall respond each time with a SM-STATUS message with cause # 96 ”invalid mandatory information”.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		REQUEST PDP CONTEXT ACTIVATION	Request the activation of a PDP context with the transaction identifier flag set to “1”
2		SS		Wait 30 seconds to ensure UE does not request context activation
3		UE		Initiate a context request
4	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context from the UE
5	←		ACTIVATE PDP CONTEXT ACCEPT	Unknown IE encoded as ‘comprehension required’
6	→		SM STATUS	Cause set to #96
7		SS		Wait T3380 seconds
8	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context from the UE (auto-generated)
9	←		ACTIVATE PDP CONTEXT ACCEPT	Out of sequence IE encoded as ‘comprehension required’
10	→		SM STATUS	Cause set to #96
11		SS		Wait T3380 seconds
12	→		ACTIVATE PDP CONTEXT REQUEST	Activate a PDP context from the UE (auto-generated)
13	←		ACTIVATE PDP CONTEXT ACCEPT	Accept the PDP context
16	←		DEACTIVATE PDP CONTEXT REQUEST	Try to deactivate the context with a different transaction identifier to that used to activate the context
17	→		SM STATUS	Cause set to # 81
18	←		MODIFY PDP CONTEXT REQUEST(NETWORK TO UE DIRECTION)	Request the modification of the PDP context
19	→		SM STATUS	Cause set to # 96
20	←		MODIFY PDP CONTEXT REQUEST(NETWORK TO UE DIRECTION)	Request the modification of the PDP context
21	→		SM STATUS	Cause set to # 96
22	←		MODIFY PDP CONTEXT REQUEST(NETWORK TO UE DIRECTION)	Request the modification of the PDP context
23	→		SM STATUS	Cause set to # 96

11.4.1.5 Test requirements

TBD.

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000
3GPP TSG-??? Meeting #nn
Location, Country, Date

Document T1-000300
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

Tdoc DocNumber

CR-Form-v3

CHANGE REQUEST

⌘ **34.123-1** **CR** **035** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	New teset cases for CS intersystem handover		
Source:	⌘	MCC task 160		
Work item code:	⌘		***Date:*** ⌘	2000-11-10
Category:	⌘	**B**	***Release:*** ⌘	R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Intersystem handover signalling tests are essential for the dual mode UE.
Summary of change:	⌘	Create new test cases for intersystem CS handover between a GSM cell and a UTRAN FDD cell. The CR contains 13 test cases from a GSM cell handovered to a UTRAN cell and 12 test cases from a UTRAN cell to a GSM cell. The CR includes the test scenarios for the speech call in U1 and U10, the different data rate call in U10, the blind handover and the handover failure.
Consequences if not approved:	⌘	

Clauses affected:	⌘	8.3.6 & 8.3.7		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘			

8.3.6 Inter-system hard handover from GSM to UTRAN

Clauses 8.3.6 contains test procedures to be used for executing Inter-system Handover from GSM to UTRAN tests. Table 8.3.6-1 contains a summary of the different combinations of parameters being tested, together with a reference to the appropriate generic test procedure. If a test uses a parameter which the UE under test does not support, the test shall

be skipped. Test cases in this clause are applicable only to the UE supporting both UTRAN and GSM. The test USIM shall support service 27 to carry out these test cases.

Table 8.3.6-1

From	To	State of call	Ref. clause	Exec counter	Remark
GSM FR	UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	U10	8.3.6.1	1	call active state
GSM EFR	UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	U10	8.3.6.1	2	call active state
GSM AMR	UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	U10	8.3.6.1	3	call active state
GSM HR	UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	U10	8.3.6.1	4	call active state
GSM 14.4 kbps CS data	UTRAN (Streaming/unknown/ UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	U10	8.3.6.2	1	same data rate
GSM 28.8 kbps CS data	UTRAN (Streaming/unknown/ UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	U10	8.3.6.2	2	same data rate
GSM 57.6 kbps CS data	UTRAN (Streaming/unknown/ UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	U10	8.3.6.2	3	same data rate
GSM 14.4 kbps CS data	UTRAN (Streaming/unknown/ UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	U10	8.3.6.3	1	data rate upgrading
GSM 14.4 kbps CS data	UTRAN (Streaming/unknown/ UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	U10	8.3.6.3	2	data rate upgrading
GSM 28.8 kbps CS data	UTRAN (Streaming/unknown/ UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	U10	8.3.6.3	3	data rate upgrading
GSM FR	UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	U1	8.3.6.4	1	during call establishment
GSM FR	UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	U10	8.3.6.5	1	blind handover
GSM FR	UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	U10	8.3.6.6	1	failure case

8.3.6.1 Inter system handover to UTRAN/From GSM/Speech/Success

8.3.6.1.1 Definition

8.3.6.1.2 Conformance requirement

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message from GSM and perform an inter-system handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

If the UE succeeds to establish the connection to UTRAN, it shall transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH.

Reference(s)

TS 25.331 Clause 8.3.6.

TS 04.18 Clause 3.4.4a.

8.3.6.1.3 Test purpose

To test that UE supporting both GSM and UTRAN handovers to the indicated channel in the UTRAN target cell when it is in the speech call active state in the GSM serving cell and receives a HANDOVER TO UTRAN COMMAND.

8.3.6.1.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is GSM, Cell 2 is UTRAN. GSM 11.10-1 section 26.6.5.1 shall be referenced for the default parameters of cell 1.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN AMR,

UE supports GSM ARM,

UE supports GSM EFR,

UE supports GSM HR,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

Test Procedure

The SS starts the GSM cell and UTRAN cell with cell selection conditions in favour of GSM cell, the UE selects the GSM cell for camping on. In UTRAN cell SIB16 is broadcast and contains the pre-configuration for conversationa/speech/UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS. After UE received and stored the SIB16, the SS brings the UE into the call active state (CC state U10) with FR speech call (for execution counter M = 1). The SS configures the dedicated channel corresponding to the pre-configuration in UTRAN cell, then sends HANDOVER TO UTRAN COMMAND indicating the dedicated channel of the target cell to the UE through the GSM

serving cell. After the UE receives the command it shall configure itself accordingly and switch to the dedicated channel of UTRAN cell. The SS checks whether the handover is performed by checking that the UE transmits HANDOVER TO UTRAN COMPLETE to the SS through DCCH of the UTRAN cell.

Depending on the PIXIT parameters, the above procedure is executed maximum four times, each time for different initial conditions:

- If the UE supports GSM FR, the procedure is executed for execution counter M = 1;
- If the UE supports GSM EFR, the procedure is executed for execution counter M = 2;
- If the UE supports GSM AMR, the procedure is executed for execution counter M = 3;
- If the UE supports GSM HR, the procedure is executed for execution counter M = 4.

Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, 4, depending on the PIXIT parameters.

Step	Direction		Message	Comments
	UE	SS		
1	SS			The SS configures GSM and UTRAN cells, UE camps on GSM cell and received SIB16 from UTRAN cell.

2	UE			The SS bring the UE into GSM U10 state in cell 1 and
				for M = 1: the UE is in GSM FR speech call;
				for M = 2: the UE is in GSM EFR speech call;
				for M = 3: the UE is in GSM AMR speech call;
				for M = 4: the UE is in GSM HR speech call.

3	SS			The SS configures the dedicated channel with the configuration: conversational/speech/UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs in UTRAN cell.
4	←		HANDOVER TO UTRAN COMMAND	Send on cell 1 (GSM cell)
5	UE			The UE accepts the handover command and configures its lower layers using the parameters contained in the HANDOVER TO UTRAN COMMAND
6	SS			The SS waits for uplink physical channel in synchronization
7	→		HANDOVER TO UTRAN COMPLETE	The SS receives this message on DCCH of cell 2 (UTRAN cell). It implies that the down link physical channel has synchronised with UTRAN.

Specific message contents

Content of “SysInfoType16”

Information Element	Value/remark
re-EstablishmentTimer T315	30 s
PredefinedRB_Configuration	
- SRB information list	
- RB identity	1
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	UM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE DL RLC mode	UM RLC mode
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- RB identity	2
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- transmission window size	8
- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- RB identity	3
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100

- MaxMRW	4
- transmission window size	8
- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- RB identity	4
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- transmission window size	8
- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- RB information list	
- RB information to setup	
- RB identity	10

- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC mode
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC mode
- Segmentation indication	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- RB information to setup	
- RB identity	11
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC mode
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC mode
- Segmentation indication	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- RB information to setup	
- RB identity	12
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC mode
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC mode
- Segmentation indication	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
preDefTransChConfiguration	
- UL Common Transport channel Info	
- TFC subset	
- Allowed Transport Format combination	0, 1, 2, 3, 4, 5
- CHOICE Mode specific info	FDD
- CHOICE UL DCH TFCS	Normal signalling
- CHOICE Normal signalling	Addition
- CHOICE CTFC Size	6 bits
- CTFC information	0

- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	1
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	11
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	12
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	13
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	23
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- UL Add or reconfigured transport channel info list	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	81
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	39
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	81
- Semi-static Transport Format information	
- Transmission time interval	20 ms
- Type of channel coding	convolutional
- Coding Rate	1/3
- Rate matching attribute	180-220
- CRC size	12 bits
- Transport channel identity	3
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	103
- Dynamic Transport format information	
- Number of Transport blocks	1

- RLC size	103
- Semi-static Transport Format information	
- Transmission time interval	20 ms
- Type of channel coding	convolutional
- Coding Rate	1/3
- Rate matching attribute	170-210
- CRC size	N/A
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	60
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	60
- Semi-static Transport Format information	
- Transmission time interval	20 ms
- Type of channel coding	convolutional
- Coding Rate	1/2
- Rate matching attribute	215-256
- CRC size	N/A
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	148
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	148
- Semi-static Transport Format information	
- Transmission time interval	40 ms
- Type of channel coding	convolutional
- Coding Rate	1/3
- Rate matching attribute	155-165
- CRC size	16 bits
- DL Common transport channel info	
- SCCPCH TFCS	Not Present
- CHOICE Mode specific info	FDD
- CHOICE TFCS Signalling mode	Same as UL
- Added or reconfigured DL TrCH info list	
- Transport channel identity	2
- CHOICE TFS signalling mode	SameAsUL
- UL TrCH Identity	2
- DCH quality target	
- BLER Quality value	0
- Transparent mode signalling info	Not Present
- Addide or reconfigured DL TrCH info list	
- Transport channel identity	3
- CHOICE TFS signalling mode	SameAsUL
- UL TrCH Identity	3
- DCH quality target	
- BLER Quality value	0
- Transparent mode signalling info	Not Present
- Added or reconfigured DL TrCH info list	
- Transport channel identity	4
- CHOICE TFS signalling mode	SameAsUL
- UL TrCH Identity	4
- DCH quality target	
- BLER Quality value	0
- Transparent mode signalling info	Not Present
PreDefPhyChConfiguration	
-UL_DPCH_InfoPredef	
- UL DPCH Info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	15 slots
- CHOICE Mode specific info	FDD

- TFCI existence	TRUE
- Puncturing Limit	0.88
- DL_ CommonInformationPredef	
- DL_DPCH_InfoCommon	
- Timing indication	initialize
- CHOICE Mode specific info	FDD
- Spreading factor and pilot	128
- Number of bits for Pilot bits	4 bits
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Downlink DPCH Offset Value	0

HANDOVER TO UTRAN COMMAND

Information Element	**Value/remark**
RR management Protocol Discriminator	'0110'B
Skip Indicator	'0000'B
Inter System to UTRAN Handover Command Message Type	'01100011'B
Handover to UTRAN Command IEI	TBD
Length of Handover to UTRAN Command contents	Octet length of the "Handover to UTRAN Command value part"
Handover to UTRAN Command value part	PER encoded ASN.1 value of type "HandoverToUTRANCommand-v1-IEs", the content is presented in the next table.

Content of “HandoverToUTRANCommand-v1-IEs”

Information Element	Value/remark
New U-RNTI	
- SRNC Identiy	‘000000000001’B
- S-RNTI-2	1
Activation time	now
Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
RAB Info	
- RAB identity	
- GSM-MAP RAB identity	‘00000001’B
- CN domain identity	CS domain
CHOICE Specification mode	Preconfiguration
- Predefined configuration identity	1
- CHOICE Mode specific info	FDD
- UL DPCH info	
- UL DPCH power control info	
- Power control algorithm1	1
- Scrambling code type	long
- Reduced scrambling code number	0
- Spreading factor	128
- DL common information post	
- DL DPCH info common	
- Timing indication	initialize
- CFN target SFN frame offset	Not present
- DL DPCH power control info	
- CHOICE Mode specific info	FDD
- DPC mode	Single TPC
- DL information perRL list	
- Premary CPICH info	
- Primary scrambling code	100
- DL DPCH info perRL	
- pCPICH usage for channelEst	May be used
- DL channelisation code	
- Secondary scrambling code	1
- SF and code number	SF = 128, code number = 127
- Scrambling code change	No code change
- TPC combination index	0
- Frequency info	
- UARFCN uplink(Nu)	See PIXIT
- UARFCN downlink(Nd)	See PIXIT
Maximum allowed UL TX power	33dBm

8.3.6.1.5 Test requirement

After step 7 the ongoing call shall be continued on UTRAN cell.

8.3.6.2 Inter system handover to UTRAN/From GSM/Data/Same data rate/Success

8.3.6.2.1 Definition

8.3.6.2.2 Conformance requirement

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message from GSM and perform an inter-system handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

If the UE succeeds to establish the connection to UTRAN, it shall transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH.

Reference(s)

TS 25.331 Clause 8.3.6.

TS 04.18 Clause 3.4.4a.

8.3.6.2.3 Test purpose

To test that the UE handovers to the indicated UTRAN target cell and the data rate of the target channel is the same as the old channel when it is in the data call active state in the GSM serving cell and receives a HANDOVER TO UTRAN COMMAND.

8.3.6.2.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is GSM, Cell 2 is UTRAN. GSM 11.10-1 section 26.6.5.1 or section 26.13.1.3 (for HSCSD) shall be referenced for the default parameters of cell 1.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN Streaming/unknown/UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports UTRAN Streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports UTRAN Streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports GSM 14.4 kbps data (HSCSD or full rate traffic channel for 14.4 kbit/s user data (TCH/F14.4)),

UE supports GSM 28.8 kbps data (HSCSD or full rate traffic channel for 28.8 kbit/s user data (E-TCH/F28.8)),

UE supports GSM 57.6 kbps data,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

Test Procedure

The SS starts the GSM cell and the UTRAN cell, the cell selection conditions of these two cells are in favour of GSM cell. The UE selects the GSM cell for camping on. After the UE receives and stores pre-configuration information from SIB16 broadcast in the UTRAN cell, the SS brings the UE into the call active state (CC state U10) with 14.4 kbps CS data call (for execution counter M = 1). The SS configures a dedicated channel corresponding to the pre-configuration (streaming/unknown/UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS for M = 1) in UTRAN cell, then sends HANDOVER TO UTRAN COMMAND indicating the dedicated channel of the target cell to the UE through the GSM serving cell. After the UE receives the command it shall configure itself accordingly and switch to the dedicated channel of the UTRAN cell. The SS checks whether the handover is performed by checking that the UE transmits HANDOVER TO UTRAN COMPLETE to the SS through DCCH of the UTRAN cell.

Depending on the PIXIT parameters, the above procedure is executed maximum three times, each time for different initial conditions:

- If the UE supports GSM 14.4 kbps CS data and UTRAN streaming/unknown/UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs, the procedure is executed for execution counter M = 1;

- If the UE supports GSM 28.8 kbps CS data and UTRAN streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs, the procedure is executed for execution counter M = 2;

- If the UE supports GSM 57.6 kbps CS data and UTRAN streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs, the procedure is executed for execution counter M = 3;

Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, depending on the PIXIT parameters.

Step	Direction		Message	Comments
	UE	SS		
1	SS			The SS configures GSM and UTRAN cells, the UTRAN cell broadcasts SIB16 containing pre-configuration information: For M = 1: (streaming/unknown/UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs); For M = 2: (streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs); For M = 3: (streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs). UE camps on GSM cell and received SIB16 from UTRAN cell.

2	UE			The SS bring the UE into GSM U10 state in cell 1 and
				for M = 1: the UE is in GSM 14.4 kbps CS data call;
				for M = 2: the UE is in GSM 28.8 kbps CS data call;
				for M = 3: the UE is in GSM 57.6 kbps CS data call;

3	SS			The SS configures a dedicated channel in the UTRAN cell with the configuration: For M = 1: (streaming/unknown/UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs); For M = 2: (streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs); For M = 3: (streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs)
4	←		HANDOVER TO UTRAN COMMAND	Send on cell 1 (GSM cell)
5	UE			The UE accepts the handover command and configures its lower layers using the parameters contained in the HANDOVER TO UTRAN COMMAND
6	SS			The SS waits for uplink physical channel in synchronization
7	→		HANDOVER TO UTRAN COMPLETE	The SS receives this message on DCCH of cell 2 (UTRAN cell). It implies that the down link physical channel has synchronised with UTRAN.

Specific message contents

For execution1 (M = 1):

Content of “SysInfoType16”

Information Element	Value/remark
re-EstablishmentTimer T315	30 s
PredefinedRB_Configuration	
- SRB information list	
- RB identity	1
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	UM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE DL RLC mode	UM RLC mode
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- RB identity	2
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- transmission window size	8
- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- RB identity	3
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- transmission window size	8

- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- RB identity	4
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- transmission window size	8
- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- RB information list	
- RB information to setup	
- RB identity	10
- PDCP info	Not Present
- RLC info	

- CHOICE Uplink RLC mode	TM RLC mode
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC mode
- Segmentation indication	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
preDefTransChConfiguration	
- UL Common Transport channel Info	
- TFC subset	
- Allowed Transport Format combination	0, 1, 2, 3
- CHOICE Mode specific info	FDD
- CHOICE UL DCH TFCS	Normal signalling
- CHOICE Normal signalling	Addition
- CHOICE CTFC Size	2 bits
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	1
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	2
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	3
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- UL Add or reconfigured transport channel info list	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	576
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	576
- Semi-static Transport Format information	
- Transmission time interval	40 ms
- Type of channel coding	Turbo coding
- Rate matching attribute	145-185
- CRC size	16 bits

- Transport channel identity	1
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	148
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	148
- Semi-static Transport Format information	
- Transmission time interval	40 ms
- Type of channel coding	convolutional
- Coding Rate	1/3
- Rate matching attribute	155-165
- CRC size	16 bits
- DL Common transport channel info	
- SCCPCH TFCS	Not Present
- CHOICE Mode specific info	FDD
- CHOICE TFCS Signalling mode	Same as UL
- Added or reconfigured DL TrCH info list	
- Transport channel identity	2
- CHOICE TFS signalling mode	SameAsUL
- UL TrCH Identity	2
- DCH quality target	
- BLER Quality value	0
- Transparent mode signalling info	Not Present
PreDefPhyChConfiguration	
-UL_DPCH_InfoPredef	
- UL DPCH Info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	15 slots
- CHOICE Mode specific info	FDD
- TFCI existence	TRUE
- Puncturing Limit	1
- DL_ CommonInformationPredef	
- DL_DPCH_InfoCommon	
- Timing indication	initialize
- CHOICE Mode specific info	FDD
- Spreading factor and pilot	128
- Number of bits for Pilot bits	8 bits
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Downlink DPCH Offset Value	0

HANDOVER TO UTRAN COMMAND

Information Element	Value/remark
RR management Protocol Discriminator	‘0110’B
Skip Indicator	‘0000’B
Inter System to UTRAN Handover Command Message Type	‘01100011’B
Handover to UTRAN Command IEI	TBD
Length of Handover to UTRAN Command contents	Octet length of the “Handover to UTRAN Command value part”
Handover to UTRAN Command value part	PER encoded ASN.1 value of type “HandoverToUTRANCommand-v1-IEs”, the content is presented in the next table.

Content of “HandoverToUTRANCommand-v1-IEs”

Information Element	Value/remark
New U-RNTI	
- SRNC Identiy	‘000000000001’B
- S-RNTI-2	1
Activation time	now
Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
RAB Info	
- RAB identity	
- GSM-MAP RAB identity	‘00000001’B
- CN domain identity	CS domain
CHOICE Specification mode	Preconfiguration
- Predefined configuration identity	1
- CHOICE Mode specific info	FDD
- UL DPCH info	
- UL DPCH power control info	
- Power control algorithm1	1
- Scrambling code type	long
- Reduced scrambling code number	0
- Spreading factor	64
- DL common information post	
- DL DPCH info common	
- Timing indication	initialize
- CFN target SFN frame offset	Not present
- DL DPCH power control info	
- CHOICE Mode specific info	FDD
- DPC mode	Single TPC
- DL information perRL list	
- Premary CPICH info	
- Primary scrambling code	100
- DL DPCH info perRL	
- pCPICH usage for channelEst	May be used
- DL channelisation code	
- Secondary scrambling code	1
- SF and code number	SF = 128, code number = 127
- Scrambling code change	No code change
- TPC combination index	0
- Frequency info	
- UARFCN uplink(Nu)	See PIXIT
- UARFCN downlink(Nd)	See PIXIT
Maximum allowed UL TX power	33dBm

For execution2 (M = 2):

Content of “SysInfoType16” same as for M=1 except:

Information Element	Value/remark
preDefTransChConfiguration	
- UL Common Transport channel Info	
- TFC subset	
- Allowed Transport Format combination	0, 1, 2, 3, 4, 5
- CHOICE Mode specific info	FDD
- CHOICE UL DCH TFCS	Normal signalling
- CHOICE Normal signalling	Addition
- CHOICE CTFC Size	4 bits
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	1
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	2
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	3
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	4
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	5
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- UL Add or reconfigured transport channel info list	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	576
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	576
- Dynamic Transport format information	
- Number of Transport blocks	2
- RLC size	576
- Semi-static Transport Format information	
- Transmission time interval	40 ms

- Type of channel coding	Turbo coding
- Rate matching attribute	135-175
- CRC size	16 bits
PreDefPhyChConfiguration	
-UL_DPCH_InfoPredef	
- UL DPCH Info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	15 slots
- CHOICE Mode specific info	FDD
- TFCI existence	TRUE
- Puncturing Limit	1
- DL_ CommonInformationPredef	
- DL_DPCH_InfoCommon	
- Timing indication	initialize
- CHOICE Mode specific info	FDD
- Spreading factor and pilot	64
- Number of bits for Pilot bits	8 bits
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Downlink DPCH Offset Value	0

HANDOVER TO UTRAN COMMAND

Information Element	**Value/remark**
RR management Protocol Discriminator	‘0110’B
Skip Indicator	‘0000’B
Inter System to UTRAN Handover Command Message Type	‘01100011’B
Handover to UTRAN Command IEI	TBD
Length of Handover to UTRAN Command contents	Octet length of the “Handover to UTRAN Command value part”
Handover to UTRAN Command value part	PER encoded ASN.1 value of type “HandoverToUTRANCommand-v1-IEs”, the content is presented in the next table.

Content of “HandoverToUtranCommand-v1-IEs”

Information Element	Value/remark
New U-RNTI	
- SRNC Identiy	‘000000000001’B
- S-RNTI-2	1
Activation time	now
Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
RAB Info	
- RAB identity	
- GSM-MAP RAB identity	‘00000001’B
- CN domain identity	CS domain
CHOICE Specification mode	Preconfiguration
- Predefined configuration identity	1
- CHOICE Mode specific info	FDD
- UL DPCH info	
- UL DPCH power control info	
- Power control algorithm1	1
- Scrambling code type	long
- Reduced scrambling code number	0
- Spreading factor	32
- DL common information post	
- DL DPCH info common	
- Timing indication	initialize
- CFN target SFN frame offset	Not present
- DL DPCH power control info	
- CHOICE Mode specific info	FDD
- DPC mode	Single TPC
- DL information perRL list	
- Premary CPICH info	
- Primary scrambling code	100
- DL DPCH info perRL	
- pCPICH usage for channelEst	May be used
- DL channelisation code	
- Secondary scrambling code	1
- SF and code number	SF = 64, code number = 63
- Scrambling code change	No code change
- TPC combination index	0
- Frequency info	
- UARFCN uplink(Nu)	See PIXIT
- UARFCN downlink(Nd)	See PIXIT
Maximum allowed UL TX power	33dBm

For execution3 (M = 3):

Content of “SysInfoType16” same as for M=1 except:

Information Element	Value/remark
preDefTransChConfiguration	
- UL Common Transport channel Info	
- TFC subset	
- Allowed Transport Format combination	0, 1, 2, 3, 4, 5, 6, 7, 8, 9
- CHOICE Mode specific info	FDD
- CHOICE UL DCH TFCS	Normal signalling
- CHOICE Normal signalling	Addition
- CHOICE CTFC Size	4 bits
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	1
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	2
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	3
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	4
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	5
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	6
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	7
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	8

- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	9
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- UL Add or reconfigured transport channel info list	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	576
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	576
- Dynamic Transport format information	
- Number of Transport blocks	2
- RLC size	576
- Dynamic Transport format information	
- Number of Transport blocks	3
- RLC size	576
- Dynamic Transport format information	
- Number of Transport blocks	4
- RLC size	576
- Semi-static Transport Format information	
- Transmission time interval	40 ms
- Type of channel coding	Turbo coding
- Rate matching attribute	125-165
- CRC size	16 bits
PreDefPhyChConfiguration	
-UL_DPCH_InfoPredef	
- UL DPCH Info	
- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	15 slots
- CHOICE Mode specific info	FDD
- TFCI existence	TRUE
- Puncturing Limit	1
- DL_ CommonInformationPredef	
- DL_DPCH_InfoCommon	
- Timing indication	initialize
- CHOICE Mode specific info	FDD
- Spreading factor and pilot	32
- Number of bits for Pilot bits	8 bits
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Downlink DPCH Offset Value	0

HANDOVER TO UTRAN COMMAND

Information Element	Value/remark
RR management Protocol Discriminator	'0110'B
Skip Indicator	'0000'B
Inter System to UTRAN Handover Command Message Type	'01100011'B
Handover to UTRAN Command IEI	TBD
Length of Handover to UTRAN Command contents	Octet length of the "Handover to UTRAN Command value part"
Handover to UTRAN Command value part	PER encoded ASN.1 value of type "HandoverToUTRANCommand-v1-IEs", the content is presented in the next table.

Content of "HandoverToUTRANCommand-v1-IEs"

Information Element	Value/remark
New U-RNTI	
- SRNC Identiy	'000000000001'B
- S-RNTI-2	1
Activation time	now
Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
RAB Info	
- RAB identity	
- GSM-MAP RAB identity	'00000001'B
- CN domain identity	CS domain
CHOICE Specification mode	Preconfiguration
- Predefined configuration identity	1
- CHOICE Mode specific info	FDD
- UL DPCH info	
- UL DPCH power control info	
- Power control algorithm1	1
- Scrambling code type	long
- Reduced scrambling code number	0
- Spreading factor	16
- DL common information post	
- DL DPCH info common	
- Timing indication	initialize
- CFN target SFN frame offset	Not present
- DL DPCH power control info	
- CHOICE Mode specific info	FDD
- DPC mode	Single TPC
- DL information perRL list	
- Premary CPICH info	
- Primary scrambling code	100
- DL DPCH info perRL	
- pCPICH usage for channelEst	May be used
- DL channelisation code	
- Secondary scrambling code	1
- SF and code number	SF = 32, code number = 31
- Scrambling code change	No code change
- TPC combination index	0
- Frequency info	
- UARFCN uplink(Nu)	See PIXIT
- UARFCN downlink(Nd)	See PIXIT
Maximum allowed UL TX power	33dBm

8.3.6.2.5 Test requirement

After step 7 the ongoing call shall be continued on UTRAN cell.

8.3.6.3 Inter system handover to UTRAN/From GSM/Data/Data rate upgrading/Success

8.3.6.3.1 Definition

8.3.6.3.2 Conformance requirement

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message from GSM and perform an inter-system handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

If the UE succeeds to establish the connection to UTRAN, it shall transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH.

Reference(s)

TS 25.331 Clause 8.3.6.

TS 04.18 Clause 3.4.4a.

8.3.6.3.3 Test purpose

To test that the UE being in the data call active state handovers from the GSM serving cell to the indicated channel of a higher data rate in the UTRAN target cell after it receives a HANDOVER TO UTRAN COMMAND.

8.3.6.3.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is GSM, Cell 2 is UTRAN. GSM 11.10-1 section 26.6.5.1 or section 26.13.1.3(for HSCSD) shall be referenced for the default parameters of cell 1.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN Streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports UTRAN Streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports GSM 14.4 kbps data (HSCSD or full rate traffic channel for 14.4 kbit/s user data (TCH/F14.4)),

UE supports GSM 28.8 kbps data (HSCSD or full rate traffic channel for 28.8 kbit/s user data (E-TCH/F28.8)),

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

Test Procedure

The SS starts the GSM cell and the UTRAN cell with cell selection conditions in favour of GSM cell. In UTRAN cell SIB16 is broadcast. The UE selects the GSM cell and received the pre-configuration information from SIB16. Then the SS brings the UE into the call active state (CC state U10) with 14.4 kbps CS data call (for execution counter M = 1). The SS configures a dedicated channel corresponding to the pre-configuration (streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS for M = 1), then sends HANDOVER TO UTRAN COMMAND indicating the dedicated channel of the target cell to the UE through the GSM serving cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the UTRAN cell. The SS checks whether the

handover is performed by checking that the UE transmits HANDOVER TO UTRAN COMPLETE to the SS through DCCH of the UTRAN cell.

Depending on the PIXIT parameters, the above procedure is executed maximum three times, each time for different conditions:

- If the UE supports GSM 14.4 kbps CS data and UTRAN streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs, the procedure is executed for execution counter M = 1;

- If the UE supports GSM 14.4 kbps CS data and UTRAN streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs, the procedure is executed for execution counter M = 2;

- If the UE supports GSM 28.8 kbps CS data and UTRAN streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs, the procedure is executed for execution counter M = 3;

Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, depending on the PIXIT parameters.

Step	Direction		Message	Comments
	UE	SS		
1	SS			The SS configures GSM and UTRAN cells, the UTRAN cell broadcasts SIB16 containing pre-configuration information: For M = 1: (streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs); For M = 2: (streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs); For M = 3: (streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs). UE camps on GSM cell and received SIB16 from UTRAN cell.

2	UE			The SS bring the UE into GSM U10 state in cell 1 and
				for M = 1: the UE is in GSM 14.4 kbps CS data call;
				for M = 2: the UE is in GSM 14.4 kbps CS data call;
				for M = 3: the UE is in GSM 28.8 kbps CS data call;

3	SS			The SS configures a dedicated channel in the UTRAN cell with the configuration: For M = 1: (streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs); For M = 2: (streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs); For M = 3: (streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs)
4	←		HANDOVER TO UTRAN COMMAND	Send on cell 1 (GSM cell)
5	UE			The UE accepts the handover command and configures its lower layers using the parameters contained in the HANDOVER TO UTRAN COMMAND
6	SS			The SS waits for uplink physical channel in synchronization
7	→		HANDOVER TO UTRAN COMPLETE	The SS receives this message on DCCH of cell 2 (UTRAN cell). It implies that the down link physical channel has synchronised with UTRAN.

Specific message contents

For execution1 (M = 1):

Same as the default message contents in clause 8.3.6.2 for M = 2.

For execution2 (M = 2):

Same as the default message contents in clause 8.3.6.2 for M = 3.

For execution3 (M = 3):

Same as the default message contents in clause 8.3.6.2 for M = 3.

8.3.6.3.5 Test requirement

After step 7 the ongoing call shall be continued on UTRAN cell.

8.3.6.4 Inter system handover to UTRAN/From GSM/Speech/Establishment/Success

8.3.6.4.1 Definition

8.3.6.4.2 Conformance requirement

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message from GSM and perform an inter-system handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

If the UE succeeds to establish the connection to UTRAN, it shall transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH.

Reference(s)

TS 25.331 Clause 8.3.6.

TS 04.18 Clause 3.4.4a.

8.3.6.4.3 Test purpose

To test that the UE supporting both GSM and UTRAN handovers from the GSM serving cell to the indicated channel in UTRAN target cell when the UE is in the call establishment phase and receives a HANDOVER TO UTRAN COMMAND.

8.3.6.4.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is GSM, Cell 2 is UTRAN. GSM 11.10-1 section 26.6.5.1 shall be referenced for the default parameters of cell 1.

UE : CC State U1 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN AMR,

UE supports GSM FR,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U1 on cell 2.

Test Procedure

The SS starts GSM cell and UTRAN cell with the cell selection conditions in favour of GSM cell. The UE selects the GSM cell. After the UE camps on the GSM cell and received SIB16 broadcast in the UTRAN cell, the UE is triggered to make an MO speech call. After the SS received SETUP message it configures a dedicated channel corresponding to the predefined configuration (conversationa/speech/UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS) described by SIB16, then the SS sends HANDOVER TO UTRAN COMMAND indicating the dedicated channel to the UE through the GSM serving cell. After the UE receives the command and it shall configure itself accordingly and switch to the new channel of UTRAN cell. The SS checks whether the handover is performed by checking that the UE transmits HANDOVER TO UTRAN COMPLETE to the SS through DCCH of the UTRAN cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	SS			The SS configures GSM and UTRAN cells, UE camps on GSM cell and received SIB16 from UTRAN cell.
2	UE			To trigger UE to make an MO call
3	→		CHANNEL REQUEST	initiate outgoing call
4	←		IMMEDIATE ASSIGNMENT	SDCCH, U0
5	→		CM SERVICE REQUEST	U0.1
6	→		SETUP	U1
7	SS			The SS configures a dedicated channel with the configuration: conversational/speech/UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs in UTRAN cell.
8	←		HANDOVER TO UTRAN COMMAND	Send on cell 1 (GSM cell)
9	UE			The UE accepts the handover command and configures its lower layers using the parameters contained in the HANDOVER TO UTRAN COMMAND
10	SS			The SS waits for uplink physical channel in synchronization
11	→		HANDOVER TO UTRAN COMPLETE	The SS receives this message on DCCH of cell 2 (UTRAN cell). It implies that the down link physical channel has synchronised with UTRAN.

Specific message contents

Same as the default message contents in clause 8.3.6.1 for M = 1.

8.3.6.4.5 Test requirement

After step 11 the ongoing call shall be continued on UTRAN cell.

8.3.6.5 Inter system handover to UTRAN/From GSM/Speech/Blind HO/Success

8.3.6.5.1 Definition

8.3.6.5.2 Conformance requirement

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message from GSM and perform an inter-system handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

If the UE succeeds to establish the connection to UTRAN, it shall transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH.

Reference(s)

TS 25.331 Clause 8.3.6.

TS 04.18 Clause 3.4.4a.

8.3.6.5.3 Test purpose

To test that the UE handovers from the GSM serving cell to the indicated channel of UTRAN target cell when it is in the speech call active state without any knowledge of the target system (blind handover) and receives a HANDOVER TO UTRAN COMMAND.

8.3.6.5.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is GSM, Cell 2 is UTRAN. GSM 11.10-1 section 26.6.5.1 shall be referenced for the default parameters of cell 1.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN AMR,

UE supports GSM FR,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

Test Procedure

The SS starts the GSM cell and the UTRAN cell with cell selection conditions in favour of GSM cell, SIB16 is not broadcast in the UTRAN cell and the UE has no any predefined configuration stored. The UE selects the GSM cell. Then the SS brings the UE into the call active state (CC state U10) with FR speech. The SS configures a dedicated channel (conversationa/speech/UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS), then sends HANDOVER TO UTRAN COMMAND indicating the dedicated channel of the target cell to the UE through the GSM serving cell. After the UE receives the command it shall configure itself accordingly and switch to the dedicated channel of UTRAN cell. The SS checks whether the handover is performed by checking that the UE transmits HANDOVER TO UTRAN COMPLETE to the SS through DCCH of the UTRAN cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS bring the UE into GSM U10 state in cell 1 and the UE has no any pre-configuration information stored
2	SS			The SS configures dedicated channel with the configuration: conversational/speech/UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs in UTRAN cell.
3	←		HANDOVER TO UTRAN COMMAND	Send on cell 1 (GSM cell)
4	UE			The UE accepts the handover command and configures its lower layers using the parameters contained in the HANDOVER TO UTRAN COMMAND
5	SS			The SS waits for uplink physical channel in synchronization
6	→		HANDOVER TO UTRAN COMPLETE	The SS receives this message on DCCH of cell 2 (UTRAN cell). It implies that the down link physical channel has synchronised with UTRAN.

Specific message contents

HANDOVER TO UTRAN COMMAND

Information Element	Value/remark
RR management Protocol Discriminator	‘0110’B
Skip Indicator	‘0000’B
Inter System to UTRAN Handover Command Message Type	‘01100011’B
Handover to UTRAN Command IEI	TBD
Length of Handover to UTRAN Command contents	Octet length of the “Handover to UTRAN Command value part”
Handover to UTRAN Command value part	PER encoded ASN.1 value of type “HandoverToUTRANCommand-v1-IEs”, content is presented in the next table.

Content of “HandoverToUTRANCommand-v1-IEs”

Information Element	Value/remark
New U-RNTI	
- SRNC Identiy	‘000000000001’B
- S-RNTI-2	1
Activation time	now
Ciphering algorithm	Standard UMTS Encryption Algorithm UEA1
RAB Info	
- RAB identity	
- GSM-MAP RAB identity	‘00000001’B
- CN domain identity	CS domain
CHOICE Specification mode	complete
- re-Establishment timer	1800 seconds
- SRB information setup list	
- RB identity	1
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	UM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- CHOICE DL RLC mode	UM RLC mode
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	1
- RB identity	2
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- transmission window size	8
- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	2
- MAC logical channel priority	2
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1

- Logical channel identity	2
- RB identity	3
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- transmission window size	8
- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- MAC logical channel priority	3
- Logical channel max loss	0
- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	3
- RB identity	4
- CHOICE RLC info choice	RLC info
- CHOICE UL RLC mode	AM RLC mode
- Transmission RLC discard	MaxDAT retransmissions
- Max_DAT	4
- Timer_MRW	100
- MaxMRW	4
- transmission window size	8
- Timer_RST	500
- MAX_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_SDU	1
- Last transmission PU poll	TRUE
- Last retransmission PU poll	TRUE
- Poll windows	99
- CHOICE DL RLC mode	AM RLC mode
- In-sequence delivery	TRUE
- Receiving window size	8
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	200
- Missing PU indicator	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- UL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- MAC logical channel priority	4
- Logical channel max loss	0

- DL logical channel mapping	
- DL transport channel type	DCH
- Transport channel identity	1
- Logical channel identity	4
- RB information setup list	
- RB information to setup	
- RB identity	10
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC mode
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC mode
- Segmentation indication	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- Uplink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	1
- Downlink transport channel type	DCH
- Transport channel identity	2
- Logical channel identity	1
- RB information to setup	
- RB identity	11
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC mode
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC mode
- Segmentation indication	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- Uplink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	1
- Downlink transport channel type	DCH
- Transport channel identity	3
- Logical channel identity	1
- RB information to setup	
- RB identity	12
- PDCP info	Not Present
- RLC info	
- CHOICE Uplink RLC mode	TM RLC mode
- Transmission RLC discard	Not Present
- Segmentation indication	TRUE
- CHOICE Downlink RLC mode	TM RLC mode
- Segmentation indication	TRUE
- RB mapping info	
- CHOICE UL logical channel mappings	One logical channel
- Uplink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- MAC logical channel priority	1
- Logical channel max loss	0
- DL logical channel mapping	1
- Downlink transport channel type	DCH
- Transport channel identity	4
- Logical channel identity	1
- UL Common Transport channel Info	
- TFC subset	

- Allowed Transport Format combination	0, 1, 2, 3, 4, 5
- CHOICE Mode specific info	FDD
- CHOICE UL DCH TFCS	Normal signalling
- CHOICE Normal signalling	Addition
- CHOICE CTFC Size	6 bits
- CTFC information	0
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	1
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	11
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	12
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	13
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- CTFC information	23
- Power offset information	
- CHOICE Gain Factors	Signalled Gain Factor
- Gain factor ßc	0
- Gain factor ßd	0
- Reference TFC ID	Not Present
- Power offset Pp-m	0dB
- UL Add or reconfigured transport channel info list	
- Transport channel identity	2
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	81
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	39
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	81
- Semi-static Transport Format information	
- Transmission time interval	20 ms
- Type of channel coding	convolutional
- Coding Rate	1/3
- Rate matching attribute	180-220
- CRC size	12 bits
- Transport channel identity	3

- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	103
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	103
- Semi-static Transport Format information	
- Transmission time interval	20 ms
- Type of channel coding	convolutional
- Coding Rate	1/3
- Rate matching attribute	170-210
- CRC size	N/A
- Transport channel identity	4
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	60
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	60
- Semi-static Transport Format information	
- Transmission time interval	20 ms
- Type of channel coding	convolutional
- Coding Rate	1/2
- Rate matching attribute	215-256
- CRC size	N/A
- Transport channel identity	1
- TFS	
- Dynamic Transport format information	
- Number of Transport blocks	0
- RLC size	148
- Dynamic Transport format information	
- Number of Transport blocks	1
- RLC size	148
- Semi-static Transport Format information	
- Transmission time interval	40 ms
- Type of channel coding	convolutional
- Coding Rate	1/3
- Rate matching attribute	155-165
- CRC size	16 bits
- DL Common transport channel info	
- SCCPCH TFCS	Not Present
- CHOICE Mode specific info	FDD
- CHOICE TFCS Signalling mode	Same as UL
- Added or reconfigured DL TrCH info list	
- Transport channel identity	2
- CHOICE TFS signalling mode	SameAsUL
- UL TrCH Identity	2
- DCH quality target	
- BLER Quality value	0
- Transparent mode signalling info	Not Present
- Addide or reconfigured DL TrCH info list	
- Transport channel identity	3
- CHOICE TFS signalling mode	SameAsUL
- UL TrCH Identity	3
- DCH quality target	
- BLER Quality value	0
- Transparent mode signalling info	Not Present
- Added or reconfigured DL TrCH info list	
- Transport channel identity	4
- CHOICE TFS signalling mode	SameAsUL
- UL TrCH Identity	4
- DCH quality target	
- BLER Quality value	0
- Transparent mode signalling info	Not Present
- UL DPCH Info	

- Uplink DPCH power control info	
- DPCCH power offset	-6dB
- PC Preamble	15 slots
- Power Control Algorithm	Algorithm1
- TPC step size	1dB
- CHOICE Mode specific info	FDD
- Scrambling code type	Long
- Scrambling code number	0
- Number of DPDCH	Not Present(1)
- spreading factor	64
- TFCI existence	TRUE
- Number of FBI bit	Not Present(0)
- Puncturing Limit	0.88
- CHOICE Mode specific info	FDD
- DL PDSCH information	Not present
- CPCH SET info	Not present
- Downlink information common for all radio links	
- Downlink DPCH info common for all RL	
- Timing indication	initialize
- CFN target SFN frame offset	Not present
- CHOICE Mode specific info	FDD
- Downlink DPCH power control information	
- DPC mode	0 (single)
- Spreading factor and pilot	128
- Number of bits for Pilot bits	4 bits
- Fixed or Flexible Position	Fixed
- TFCI existence	FALSE
- Downlink DPCH Offset Value	0
- DPCH compressed mode info	
-TGPSI	1
-TGPS Status Flag	Inactive
- Transmission gap pattern sequence configuration parameters	
- TGMP	FDD Measurement
- TGPRC	62
- TGCFN	(Current CFN + (256 – TTI/10msec)) mod 256
- TGSN	8
- TGL1	10
- TGL2	5
- TGD	15
- TGPL1	35
- TGPL2	35
- RPP	Mode 1
- ITP	Mode 1
- UL/DL Mode	DL
- Downlink frame type	A
- DeltaSIR1	2.0
- DeltaSIRafter1	1.0
- DeltaSIR2	Not Present
- DeltaSIRafter2	Not Present
- TX Diversity mode	None
- SSDT information	Not Present
- S field	
- DL information perRL list	
- Premary CPICH info	
- Primary scrambling code	100
- DL DPCH info perRL	
- pCPICH usage for channelEst	May be used
- DL channelisation code	
- Secondary scrambling code	1
- SF and code number	SF = 128, code number = 127
- Scrambling code change	No code change
- TPC combination index	0
- Frequency info	
- UARFCN uplink	See PIXIT
- UARFCN downlink	See PIXIT
- Maximum allowed UL transmission power	33 dbm

8.3.6.5.5 Test requirement

At step 6 the HANDOVER TO UTRAN COMPLETE shall be received on UTRAN cell.

8.3.6.6 Inter system handover to UTRAN/From GSM/Speech/Failure

8.3.6.6.1 Definition

8.3.6.6.2 Conformance requirement

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message from GSM and perform an inter-system handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

If the UE can not establish the connection to UTRAN, it shall reactivate the old channel and transmit a HANDOVER FAILURE message on the old channel.

Reference(s)

TS 25.331 Clause 8.3.6.

TS 04.18 Clause 3.4.4a.

8.3.6.6.3 Test purpose

To test that the UE reactivates the old channel and transmits HANDOVER FAILURE message to the network on the old channel in the GSM cell when it received HANDOVER TO UTRAN COMMAND and the handover to UTRAN failed.

8.3.6.6.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is GSM, Cell 2 is UTRAN. GSM 11.10-1 section 26.6.5.1 shall be referenced for the default parameters of cell 1.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN AMR,

UE supports GSM RF,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 1.

Test Procedure

The SS starts the GSM cell and the UTRAN cell with cell selection conditions in favour of GSM cell. SIB16 is broadcast in UTRAN cell. The UE selects the GSM cell, and received the SIB16. Then the SS brings the UE into the call active state (CC state U10) with FR speech call. The SS does not configure the dedicated channel corresponding to

the predefined configuration described in SIB16 (conversationa/speech/UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS), then sends HANDOVER TO UTRAN COMMAND indicating the dedicated channel of the target cell to the UE through the GSM serving cell. The UE will not be able to establish the connection to UTRAN. The SS checks that the handover is failed by checking that the UE returns to the old channel and transmits HANDOVER FAILURE to the SS through the old channel.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	SS			The SS starts GSM and UTRAN cells, SIB16 is broadcast in the UTRAN cell. The UE camps on GSM cell and received SIB16.
2	UE			The SS bring the UE into GSM U10 state in cell 1
3	SS			There is no dedicated channel with the configuration: conversational/speech/UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBs in UTRAN cell.
4	←		HANDOVER TO UTRAN COMMAND	Send on cell 1 (GSM cell)
5	UE			The UE accepts the handover command and configures its lower layers using the parameters contained in the HANDOVER TO UTRAN COMMAND
6	UE			The UE fails to establish a connection to UTRAN cell
7	→		HANDOVER FAILURE	The SS receives this message on DCCH of cell 1 (old channel in GSM cell)

Specific message contents

Same as the specific message contents in clause 8.3.6.1 for M = 1.

8.3.6.6.5 Test requirement

At step 7 the HANDOVER FAILURE shall be received on GSM cell.

8.3.7 Inter-system hard handover from UTRAN to GSM

Clauses 8.3.7 contains test procedures to be used for executing Inter-system Handover from UTRAN to GSM tests. Table 8.3.7-1 contains a summary of the different combinations of parameters being tested, together with a reference to the appropriate generic test procedure. If a test uses a parameter which the UE under test does not support, the test shall be skipped. Test cases in this clause are applicable only to the UE supporting both UTRAN and GSM. The test USIM shall support service 27 to carry out these test cases.

Table 8.3.7-1

From	To	State of call	Ref. clause	Exec counter	Remark
UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	GSM AMR	U10	8.3.7.1	1	call active state
UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	GSM EFR	U10	8.3.7.1	2	call active state
UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.1	3	call active state
UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	GSM HR	U10	8.3.7.1	4	call active state
UTRAN (Streaming/unknown/ UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	GSM 14.4 kbps CS data	U10	8.3.7.2	1	Same data rate
UTRAN (Streaming/unknown/ UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	GSM 28.8 kbps CS data	U10	8.3.7.2	2	Same data rate
UTRAN (Streaming/unknown/ UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	GSM 57.6 kbps CS data	U10	8.3.7.2	3	Same data rate
UTRAN (Streaming/unknown/ UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	GSM 14.4 kbps CS data	U10	8.3.7.3	1	Data rate down grading
UTRAN (Streaming/unknown/ UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	GSM 14.4 kbps CS data	U10	8.3.7.3	2	Data rate down grading
UTRAN (Streaming/unknown/ UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBS)	GSM 28.8 kbps CS data	U10	8.3.7.3	3	Data rate down grading
UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	GSM FR	U1	8.3.7.4	1	During call establishment
UTRAN AMR (conversational/speech/ UL:12.2 DL:12.2 kbps/CS RAB + UL:3.4 DL3.4 kbps SRBS)	GSM FR	U10	8.3.7.5	1	failure case

8.3.7.1 Inter system handover from UTRAN/To GSM/Speech/Success

8.3.7.1.1 Definition

8.3.7.1.2 Conformance requirement

When the UE receives an INTER-SYSTEM HANDOVER COMMAND message from UTRAN the UE shall take the following actions:

- Establish the connection to the other radio access system, by using the contents of the IE "Inter system message". This IE contains candidate/ target cell identifier(s) and radio parameters relevant for the other radio access system.
- For each IE "Remaining radio access bearer", associate the radio access bearer given by the IE "RAB info" to the radio resources in the target system given by the IE "Inter system message". Other information for making the association may be included in the IE "Inter system message" and requirements may be stated in the specifications relevant for the target system [FFS].
- Switch the current connection to the other radio access system.

NOTE 1: Requirements concerning the establishment of the radio connection towards the other radio access system and the signalling procedure are outside the scope of this specification.

NOTE 2: The release of the UMTS radio resources is initiated by the other system.

NOTE 3: Currently only one radio access bearer can be associated with the IE "Inter-system message", and this association is limited to the radio access bearers in the CS domain. It is assumed that all the radio access bearers in the PS domain, if any, remain after the handover.

Reference(s)

TS 25.331 Clause 8.3.7.3.

8.3.7.1.3 Test purpose

To test that the UE supporting both GSM and UTRAN handovers from a UTRAN serving cell to the indicated channel of GSM target cell when the UE is in the speech call active state and receives an INTER-SYSTEM HANDOVER COMMAND.

8.3.7.1.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 11.10-1 section 26.6.5.1 shall be referenced for the default parameters of cell 2.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports GSM ARM,

UE supports GSM EFR,

UE supports GSM HR,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

Test Procedure

The SS starts the UTRAN cell and brings the UE into call active state (CC state U10) with AMR. The SS starts GSM cell and configures a traffic channel, then sends INTER-SYSTEM HANDOVER COMMAND indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the UTRAN cell. The SS checks whether the handover is performed by checking that the UE transmits the HANDOVER COMPLETE message to the SS through GSM cell.

Depending on the PIXIT parameters the above procedure is executed maximum four times, each time with different target channel in the GSM cell.

Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, 4, depending on the PIXIT parameters.

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS bring the UE into UTRAN U10 state in cell 1
2	SS			The SS configures cell 2 as a GSM cell with a traffic channel: for GSM AMR (M = 1); or for GSM EFR (M = 2); or for GSM FR (M = 3); or for GSM HR (M = 4).
3	←		InterSystemHandoverCommand-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM AMR (M = 1); or the target channel for GSM EFR (M = 2); or the target channel for GSM FR (M = 3); or the target channel for GSM HR (M = 4).
4	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the InterSystemHandoverCommand-GSM
5	→		HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
6	→		HANDOVER ACCESS	
7	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
9	←		PHYSICAL INFORMATION	
10	→		SABM	
11	←		UA	
12	→		HANDOVER COMPLETE	The SS receives the message on the traffic channel of GSM cell.

Specific message contents

For execution1:

InterSystemHandoverCommand-GSM

Information Element	Value/remark
Message Type	
Integrity check info	
- Message authentication code	
- Message sequence number	
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- CHOICE system	GSM
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 11.10-1, Release 1999, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 3

For execution2:

InterSystemHandoverCommand-GSM

Information Element	Value/remark
Message Type	
Integrity check info	
- Message authentication code	
- Message sequence number	
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- CHOICE system	GSM
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 11.10-1, Release 1999, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 2

For execution3:

InterSystemHandoverCommand-GSM

Information Element	Value/remark
Message Type	
Integrity check info	
- Message authentication code	
- Message sequence number	
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- CHOICE system	GSM
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 11.10-1, Release 1999, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1

For execution4:

InterSystemHandoverCommand-GSM

Information Element	Value/remark
Message Type	
Integrity check info	
- Message authentication code	
- Message sequence number	
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- CHOICE system	GSM
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 4 in clause 26.6.5.1 of GSM 11.10-1 version 8.2.0 Release 1999, except that the CHANNEL MODE IE is included with value = speech full rate or half rate version 1

8.3.7.1.5 Test requirement

After step 12 the ongoing call shall be continued on the GSM cell.

8.3.7.2 Inter system handover from UTRAN/To GSM/Data/Same data rate/Success

8.3.7.2.1 Definition

8.3.7.2.2 Conformance requirement

When the UE receives an INTER-SYSTEM HANDOVER COMMAND message from UTRAN the UE shall take the following actions:

- Establish the connection to the other radio access system, by using the contents of the IE "Inter system message". This IE contains candidate/ target cell identifier(s) and radio parameters relevant for the other radio access system.
- For each IE "Remaining radio access bearer", associate the radio access bearer given by the IE "RAB info" to the radio resources in the target system given by the IE "Inter system message". Other information for making the association may be included in the IE "Inter system message" and requirements may be stated in the specifications relevant for the target system [FFS].
- Switch the current connection to the other radio access system.

NOTE 1: Requirements concerning the establishment of the radio connection towards the other radio access system and the signalling procedure are outside the scope of this specification.

NOTE 2: The release of the UMTS radio resources is initiated by the other system.

NOTE 3: Currently only one radio access bearer can be associated with the IE "Inter-system message", and this association is limited to the radio access bearers in the CS domain. It is assumed that all the radio access bearers in the PS domain, if any, remain after the handover.

Reference(s)

TS 25.331 Clause 8.3.7.3.

8.3.7.2.3 Test purpose

To test that the UE handovers to the indicated channel of same data rate in the GSM target cell when it is in the data call active state in the UTRAN serving cell and receives an INTER-SYSTEM HANDOVER COMMAND.

8.3.7.2.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 11.10-1 section 26.6.5.1 or section 26.13.1.3 (for HSCSD) shall be referenced for the default parameters of cell 2.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN Streaming/unknown/UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports UTRAN Streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports UTRAN Streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports GSM 14.4 kbps data (HSCSD or full rate traffic channel for 14.4 kbit/s user data (TCH/F14.4)),

UE supports GSM 28.8 kbps data (HSCSD or enhanced circuit switched full rate traffic channel for 28.8 kbit/s user date (E-TCH/F28.8)),

UE supports GSM 57.6 kbps data,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

Test Procedure

The SS starts the UTRAN cell and brings the UE into data call active state (CC state U10) with a suitable configuration (e.g. Streaming/unknown/UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs for M = 1). The SS starts GSM cell and configures a traffic channel (e.g. 14.4 kbps data channel for M = 1), then sends INTER-SYSTEM HANDOVER COMMAND indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the GSM cell. The SS checks whether the handover is performed by checking that the UE transmits the HANDOVER COMPLETE message to the SS in GSM cell.

Depending on the PIXIT parameters the above procedure is executed maximum three times, each time with different target channel in the GSM cell.

Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, depending on the PIXIT parameters.

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS bring the UE into UTRAN U10 state in cell 1, the configuration is: Streaming/unknown/UL:14.4 DL:14.4 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs (for M = 1); Streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs (for M = 2); Streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs (for M = 3).
2	SS			The SS configures cell 2 as a GSM cell with a traffic channel: for GSM 14.4 kbps data (M = 1); or for GSM 28.8 kbps data (M = 2); or for GSM 57.6 kbps data (M = 3).
3	←		InterSystemHandoverCommand-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM 14.4 kbps data (M = 1); or for GSM 28.8 kbps data (M = 2); or for GSM 57.6 kbps data (M = 3).
4	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the InterSystemHandoverCommand-GSM
5	→		HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
6	→		HANDOVER ACCESS	
7	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
9	←		PHYSICAL INFORMATION	
10	→		SABM	
11	←		UA	
12	→		HANDOVER COMPLETE	The SS receives the message on the traffic channel of GSM cell.

Specific message contents

For execution1:

InterSystemHandoverCommand-GSM

Information Element	Value/remark
Message Type	
Integrity check info	
- Message authentication code	
- Message sequence number	
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- CHOICE system	GSM
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). The contents of the HANDOVER COMMAND see next table.

If the UE supports 14.4 kbps single slot:

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 11.10-1, Release 1999, except that the CHANNEL MODE IE is included with value = data, 14.5 kbit/s radio interface rate (14.4 kbit/s user data (TCH/F14.4))

If the UE supports HSCSD:

HANDOVER COMMAND

Same as the HANDOVER COMMAND in clause 26.13.3.1 of GSM 11.10-1, Release 1999, except that the Description of a multislot configuration supporting 14.4 kbps user data.

For execution2:

InterSystemHandoverCommand-GSM

Information Element	Value/remark
Message Type	
Integrity check info	
- Message authentication code	
- Message sequence number	
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- CHOICE system	GSM
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). The contents of the HANDOVER COMMAND see next table.

If the UE supports enhanced circuit switched full rate traffic channel for 28.8 kbps user data:

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 2 in clause 26.6.5.1 of GSM 11.10-1, Release 1999, except that the CHANNEL MODE IE is included with value = data, 29.0 kbit/s radio interface rate (28.8 kbit/s user data (E-TCH/F28.8))

If the UE supports HSCSD:

HANDOVER COMMAND

Same as the HANDOVER COMMAND in clause 26.13.3.1 of GSM 11.10-1, Release 1999, except that the Description of a multislot configuration supporting 28.8 kbps user data.

For execution3:

InterSystemHandoverCommand-GSM

Information Element	Value/remark
Message Type	
Integrity check info	
- Message authentication code	
- Message sequence number	
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- CHOICE system	GSM
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND in clause 26.13.3.1 of GSM 11.10-1, Release 1999, except that the Description of a multislot configuration supporting 57.6 kbps user data.

8.3.7.2.5 Test requirement

After step 12 the ongoing call shall be continued on the GSM cell.

8.3.7.3 Inter system handover from UTRAN/To GSM/Data/Data rate down grading/Success

8.3.7.3.1 Definition

8.3.7.3.2 Conformance requirement

When the UE receives an INTER-SYSTEM HANDOVER COMMAND message from UTRAN the UE shall take the following actions:

- Establish the connection to the other radio access system, by using the contents of the IE "Inter system message". This IE contains candidate/ target cell identifier(s) and radio parameters relevant for the other radio access system.
- For each IE "Remaining radio access bearer", associate the radio access bearer given by the IE "RAB info" to the radio resources in the target system given by the IE "Inter system message". Other information for making the association may be included in the IE "Inter system message" and requirements may be stated in the specifications relevant for the target system [FFS].
- Switch the current connection to the other radio access system.

NOTE 1: Requirements concerning the establishment of the radio connection towards the other radio access system and the signalling procedure are outside the scope of this specification.

NOTE 2: The release of the UMTS radio resources is initiated by the other system.

NOTE 3: Currently only one radio access bearer can be associated with the IE "Inter-system message", and this association is limited to the radio access bearers in the CS domain. It is assumed that all the radio access bearers in the PS domain, if any, remain after the handover.

Reference(s)

TS 25.331 Clause 8.3.7.3.

8.3.7.3.3 Test purpose

To test that the UE handovers to the indicated channel of lower data rate in the GSM target cell when it is in the data call active state in the UTRAN serving cell and receives an INTER-SYSTEM HANDOVER COMMAND.

8.3.7.3.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 11.10-1 section 26.6.5.1 or section 26.13.1.3 (for HSCSD) shall be referenced for the default parameters of cell 2.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN Streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports UTRAN Streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs,

UE supports GSM 14.4 kbps data (HSCSD or full rate traffic channel for 14.4 kbit/s user data (TCH/F14.4)),

UE supports GSM 28.8 kbps data (HSCSD or enhanced circuit switched full rate traffic channel for 28.8 kbit/s user date (E-TCH/F28.8)),

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 2.

Test Procedure

The SS starts the UTRAN cell and brings the UE into data call active state (CC state U10) with a suitable configuration (e.g. Streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs for M = 1). The SS starts GSM cell and configures a traffic channel (e.g. 14.4 kbps data channel for M = 1), then sends INTER-SYSTEM HANDOVER COMMAND indicating the traffic channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the GSM cell. The SS checks whether the handover is performed by checking that the UE transmits the HANDOVER COMPLETE message to the SS in GSM cell.

Depending on the PIXIT parameters the above procedure is executed maximum three times, each time with different target channel in the GSM cell.

Expected sequence

This sequence is performed for a maximum execution counter M = 1, 2, 3, depending on the PIXIT parameters.

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS bring the UE into UTRAN U10 state in cell 1, the configuration is: Streaming/unknown/UL:28.8 DL:28.8 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs (for M = 1); Streaming/unknown/UL:57.6 DL:57.6 kbps/CS RAB + UL:3.4 DL:3.4 kbps SRBs (for M = 2 and 3).
2	SS			The SS configures cell 2 as a GSM cell with a traffic channel: for GSM 14.4 kbps data (M = 1 and 2); or for GSM 28.8 kbps data (M = 3).
3	←		InterSystemHandoverCommand-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM 14.4 kbps data (M = 1 and 2); or for GSM 28.8 kbps data (M = 3).
4	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the InterSystemHandoverCommand-GSM
5	→		HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
6	→		HANDOVER ACCESS	
7	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
9	←		PHYSICAL INFORMATION	
10	→		SABM	
11	←		UA	
12	→		HANDOVER COMPLETE	The SS receives the message on the traffic channel of GSM cell.

Specific message contents

For execution1:

Same as the message contents of clause 8.3.7.2 for M = 1.

For execution2:

Same as the message contents of clause 8.3.7.2 for M = 1.

For execution3:

Same as the message contents of clause 8.3.7.2 for M = 2.

8.3.7.3.5 Test requirement

After step 12 the ongoing call shall be continued on the GSM cell.

8.3.7.4 Inter system handover from UTRAN/To GSM/Speech/Establishment/Success

8.3.7.4.1 Definition

8.3.7.4.2 Conformance requirement

When the UE receives an INTER-SYSTEM HANDOVER COMMAND message from UTRAN the UE shall take the following actions:

- Establish the connection to the other radio access system, by using the contents of the IE "Inter system message". This IE contains candidate/ target cell identifier(s) and radio parameters relevant for the other radio access system.
- For each IE "Remaining radio access bearer", associate the radio access bearer given by the IE "RAB info" to the radio resources in the target system given by the IE "Inter system message". Other information for making the association may be included in the IE "Inter system message" and requirements may be stated in the specifications relevant for the target system [FFS].
- Switch the current connection to the other radio access system.

NOTE 1: Requirements concerning the establishment of the radio connection towards the other radio access system and the signalling procedure are outside the scope of this specification.

NOTE 2: The release of the UMTS radio resources is initiated by the other system.

NOTE 3: Currently only one radio access bearer can be associated with the IE "Inter-system message", and this association is limited to the radio access bearers in the CS domain. It is assumed that all the radio access bearers in the PS domain, if any, remain after the handover.

Reference(s)

TS 25.331 Clause 8.3.7.3.

8.3.7.4.3 Test purpose

To test that the UE handovers to the indicated channel in the GSM target cell when it is in the call establishment phase in the UTRAN serving cell and receives an INTER-SYSTEM HANDOVER COMMAND.

8.3.7.4.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 11.10-1 section 26.6.5.1 shall be referenced for the default parameters of cell 2.

UE : CC State U1 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports UTRAN AMR,

UE supports GSM FR,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U1 on cell 2.

Test Procedure

The SS starts the UTRAN cell and the UE is triggered to initialise an MO speech call. During the call establishment phase, after the SS receives SETUP message the SS starts GSM cell and configures a dedicated channel, then sends the UE an INTER-SYSTEM HANDOVER COMMAND indicating the dedicated channel in the target GSM cell. After the UE receives the command it shall configure itself accordingly and switch to the new channel of the GSM cell. The SS checks whether the handover is performed by checking that the UE transmits the HANDOVER COMPLETE message to the SS in GSM cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			To trigger the UE to initialise an MO call
2	→		SETUP	U1
3	SS			The SS starts the GSM cell and configure a dedicated channel SDCCH.
4	←		InterSystemHandoverCommand-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the dedicated channel SDCCH.
5	UE			The UE accepts the handover command and switches to the GSM dedicated channel specified in the InterSystemHandoverCommand-GSM
6	→		HANDOVER ACCESS	The SS receives this burst on the dedicated channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
7	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
9	→		HANDOVER ACCESS	
10	←		PHYSICAL INFORMATION	
11	→		SABM	
12	←		UA	
13	→		HANDOVER COMPLETE	The SS receives the message on the dedicated channel of GSM cell.

Specific message contents

InterSystemHandoverCommand-GSM

Information Element	Value/remark
Message Type	
Integrity check info	
- Message authentication code	
- Message sequence number	
Activation time	now
RAB Info	Not present
Inter-system message	
- System type	GSM
- CHOICE system	GSM
- Message	GSM HANDOVER COMMAND formatted as BIT STRING(1..512). The contents of the HANDOVER COMMAND see next table.

HANDOVER COMMAND

Same as the HANDOVER COMMAND for M = 4 in clause 26.6.5.2 of GSM 11.10-1 version 8.2.0 Release 1999

8.3.7.4.5 Test requirement

At step 13 the SS shall receive HANDOVER COMPLETE message on the dedicated channel of the GSM cell.

8.3.7.5 Inter system handover from UTRAN/To GSM/Speech/Failure

8.3.7.5.1 Definition

8.3.7.5.2 Conformance requirement

If the UE does not succeed to establish the connection to the other radio access technology, it shall

- resume the connection to UTRAN using the resources used before receiving the INTER-SYSTEM HANDOVER COMMAND message; and
- transmit the INTER-SYSTEM HANDOVER FAILURE message on uplink DCCH using AM RLC. When the successful delivery of the INTER-SYSTEM FAILURE message has been confirmed by RLC, the procedure ends.

Reference(s)

TS 25.331 Clause 8.3.7.5.

8.3.7.5.3 Test purpose

To test that the UE reactivates the old channel and transmits INTER-SYSTEM HANDOVER FAILURE message to the network on the old channel in UTRAN cell when it receives an INTER-SYSTEM HANDOVER COMMAND and the connection to GSM for handover can not be established.

8.3.7.5.4 Method of test

Initial conditions

System Simulator : 2 cells - Cell 1 is UTRAN, Cell 2 is GSM. GSM 11.10-1 section 26.6.5.1 shall be referenced for the default parameters of cell 2.

UE : CC State U10 in cell 1

Related ICS/IXIT statement(s)

UE supports both GSM and UTRAN Radio Access Technologies,

UE supports GSM FR,

UE supports UTRAN AMR,

UE supports GSM-P, GSM-E, GSM-DCS, GSM-450, GSM-480.

Foreseen final state of the UE

The UE is in CC state U10 on cell 1.

Test Procedure

The SS starts the UTRAN cell and brings the UE into call active state (CC state U10) with AMR. The SS starts GSM cell without activating any dedicated channel in the cell, then sends INTER-SYSTEM HANDOVER COMMAND indicating a dedicated channel of the target GSM cell to the UE through DCCH of the serving UTRAN cell. The UE receives the command and configures itself accordingly but can not complete the handover. The SS checks that the handover is failed by checking that the UE transmits the INTER-SYSTEM HANDOVER FAILURE message to the SS in UTRAN cell.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The SS bring the UE into UTRAN U10 state in cell 1
2	SS			The SS configures cell 2 as a GSM cell but without any traffic channel.
3	←		InterSystemHandoverCommand-GSM	Send on cell 1 (UTRAN cell) and the message indicates: the target channel for GSM FR which does not exist in the GSM cell.
4	UE			The UE accepts the handover command and switches to the GSM traffic channel specified in the InterSystemHandoverCommand-GSM
5	→		HANDOVER ACCESS	The SS receives this burst on the traffic channel of cell 2 (GSM cell) It implies that the UE has switched to GSM cell.
6	→		HANDOVER ACCESS	
7	→		HANDOVER ACCESS	
8	→		HANDOVER ACCESS	
n	→		HANDOVER ACCESS	The last handover access burst before T3124 times out.
n+1	→		InterSystemHandoverFailure	The SS receives the message on the old channel of UTRAN cell.

Specific message contents

Same as the message contents of clause 8.3.7.1 for M = 3.

8.3.7.5.5 Test requirement

After step n+1 the SS shall receive INTER-SYSTEM HANDOVER FAILURE message on the old channel of the UTRAN cell.

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000

Document T1-000301
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

3GPP TSG-T1 SIG Meeting #14
Redondo Beach, CA, USA, 13th to 15th November 2000

T1S-000259

CR-Form-v3

CHANGE REQUEST

⌘ **34.123-1** **CR** **039** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network ☐

Title:	⌘	Update to RLC test cases
Source:	⌘	Anritsu
Work item code:	⌘	***Date:*** ⌘ 13-11-00
Category:	⌘ **F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	Maintenance of RLC test cases in line with changes to the Core Specification
Summary of change:	⌘	The following changes are made (CR numbers for 25.322 are in brackets): 1) Editorial modification to the test purpose in 7.2.2.2.1 and 7.2.2.2.2 (CR044) 2) Added test case for 7-bit LI = 1111100 for first octet is first octet of SDU (CR079) 3) Added test case for 15-bit LI = 111111111111100 for first octet is first octet of SDU (CR079) 4) Renumbered part of 7.2.2 to fit test case (2) in the logical sequence. 5) Editorial modification to the test purpose in 7.2.3.2.1 and 7.2.3.2.2 (CR044) 6) Modification of 7.2.3.31 to include the RSN bit. (CR041) 7) Added new test case for LIST LENGTH = "0000" and renumbered. (CR 044) 8) Added test for reducing TX Window size using new WINDOW command to 7.2.3.13 (CR044, CR059 and CR067). 9) Modified 7.2.3.28, 7.2.3.29 and 7.2.3.30 to add in revisions to MRW procedure. Added test case to test obsolete MRW_ACK and renumbered. (CR060)
Consequences if not approved:	⌘	RLC test cases will not reflect latest versions of the core specifications.

Clauses affected:	⌘	Various		
Other specs affected:	⌘		Other core specifications	⌘
		X	Test specifications	34.123-2
			O&M Specifications	
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

7.2 RLC testing

7.2.1 Transparent mode

7.2.1.1 Segmentation and reassembly

Transparent mode segmentation and reassembly are not tested in this release of the specification.

7.2.2 Unacknowledged mode

7.2.2.1 General information for UM tests

A generic Radio Access Bearer is provided for UM tests. This RAB is based upon the Stand-alone 3.4kbps UL/DL Signalling RB, with an additional UM 3.4kbps path mapped to a DTCH. This logical channel is multiplexed on the same transport channel as the DCCH.

The UM test RAB is set up using the Generic Procedure described in Clause 7.1.3 of TS 34.108, and with the default RAB replaced as follows:

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**	**RAB #1**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio	User Plane
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH	DTCH
	RLC mode		UM	AM	AM	AM	UM
	Payload sizes, bit		136	128	128	128	136
	Max data rate, bps		3400	3200	3200	3200	3400
	RLC header, bit		8	16	16	16	8
MAC	MAC header, bit		4	4	4	4	4
	MAC multiplexing		4 logical channel multiplexing				
Layer 1	TrCH type		DCH				
	TB sizes, bit		148				
	TFS	TF0, bts	0				
		TF1, bits	1x148				
	TTI, ms		40				
	Coding type		CC 1/3				
	CRC, bit		16				
	Max number of bits/TTI before rate matching		516				
	Uplink: Max number of bits/radio frame before rate matching		129				

Table 7.2/1 RAB Configuration for UM testing (7-bit Lis)

The UM test RAB is used in all tests with the following exceptions:

- Tests that only involve 15-bit length indicators
- Tests that explicitly specify a different Radio Bearer configuration

Tests that involve only 15-bit length indicators require a modified Radio Bearer configuration. To accommodate the larger payload size, these tests use a coded composite transport channel consisting of two DCH. The first DCH is specified as for the 7-bit length indicators, but not including the DTCH (RAB#1). This is shown in Table 7.2/2A

Higher layer	Signalling RB: **DCH 0**		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		3400	3200	3200	3200
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms		40			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			
	Uplink: Max number of bits/radio frame before rate matching		129			

Table 7.2/2A SRB Configuration for UM testing (15-bit Lis)

This DCH is combined with a traffic DCH (at lower MAC priority) as described in Table 7.2/2B

Higher layer	RAB: **DCH 1**		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		1280
	Max data rate, bps		64000
	RLC header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		1288
	TFS	TF0, bits	0
		TF1, bits	1x1288
	TTI, ms		20
	Coding type		TC
	CRC, bit		16

Table 7.2/2B RAB Configuration for UM testing (15-bit Lis)

All other settings are the same.

7.2.2.2 Segmentation and reassembly / Selection of 7 or 15 bit Length Indicators

7.2.2.2.1 Definition

Tbe UM RLC entity should select the appropriate length indicator size dependant upon the signaled PU size.~~For RLC PDUs smaller than 124 bytes in length, the UE RLC should assume received PDUs have 7-bit length indicators, and for PDUs of 124 bytes and larger the UE should assume 15-bit length indicators. The UE should also add the same size length indicators to outgoing RLC PDUs.~~

This requirement applies to all UEs ~~that support RLC PDU sizes of 124 bytes or greater~~.

7.2.2.2.2 Conformance requirement

The size of the Length Indicator may be either 7bits or 15bits.

For UM, 7bit indicators shall be used if the UMD PDU size is ≤ l25 octets. Otherwise 15bit indicators shall be used~~If RLC PDUs always carry only one PU, 7bit indicators are used in a particular RLC PDU if the address space is sufficient to indicate all SDU segment borders. Otherwise 15bit Length Indicators are applied~~.

The length of the Length Indicator only depends on the size of the largest RLC PDU. The length of the Length Indicator is always the same for all PUs, for one RLC entity.

RLC SDUs might be segmented. If possible, the last segment of a SDU shall be concatenated with the first segment of the next SDU in order to fill the data field completely and avoid unnecessary padding

Reference(s)

TS 25.322 Clauses 9.2.2.8, 9.2.2.9

7.2.2.2.3 Test purpose

To test that if PDU carries a single PU, and the PU size is small enough that a 7 bit indicator is sufficient, 7 bit indicators are used, otherwise, 15 bit indicators are used.

7.2.2.2.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the following exceptions:

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		960
	Max data rate, bps		48000
	RLC header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		968
	TFS	TF0, bits	0
		TF1, bits	1x968
	TTI, ms		20
	Coding type		TC
	CRC, bit		16

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 40 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 80 bytes.

b) The SS checks the length indicator sizes and values of the RLC PDU returned on the uplink.

c) The SS reconfigures the Transport Channel as follows:

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		UM
	Payload sizes, bit		1280
	Max data rate, bps		64000
	RLC header, bit		8
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		1288
	TFS	TF0, bits	0
		TF1, bits	1x1288
	TTI, ms		20
	Coding type		TC
	CRC, bit		16

All other settings the same.

d) The SS transmits an RLC SDUs of size 80 bytes.

e) The SS checks the length indicator sizes and values of the RLC PDU returned on the uplink

f) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	80 byte SDU + padding
3	→		UPLINK RLC PDU	40 byte SDU + padding
4	←		TRANSPORT CHANNEL RECONFIGURATION	PU size > 127 bytes
5	←		DOWNLINK RLC PDU	80 byte SDU + padding
6	→		UPLINK RLC PDU	40 byte SDU + padding
7			RB RELEASE	Optional step

7.2.2.2.5 Test requirements

The UE shall send 7 bit length indicators with values that correctly indicate the end of SDU in step b).

The UE shall send 15 bit length indicators with values that correctly indicate the end of SDU in step e).

7.2.2.3 Segmentation / 7-bit Length Indicators / Padding

7.2.2.3.1 Definition

The RLC segments SDUs into blocks according to the configured payload unit size. Length indicators are added to indicate: the boundaries of SDUs within a PU, the addition of padding bytes.

This test applies to all UE.

7.2.2.3.2 Conformance requirement

The Length Indicator is used to indicate, each time, the end of an *S*DU occurs in the PU. The Length Indicator points out the number of octets between the end of the last Length Indicator field and up to and including the octet at the end of an SDU segment

A PU that has unused space, to be referred to as padding, must use a Length Indicator to indicate that this space is used as padding. A padding Length Indicator must be placed after any Length Indicators for a PU.

One length indicator field shall be included for each end of a SDU that the PDU includes. The length indicator shall be set equal to the number octets between the end of the header fields and the end of the segment. If padding is needed another length indicator shall be added

Reference(s)

TS 25.322 Clauses 9.2.2.8 and 11.2.2.1.

7.2.2.3.3 Test purpose

To test that a large SDU is correctly segmented and padding added at the end.

7.2.2.3.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 7-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 18 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 18 bytes.

b) The SS checks the length indicator sizes and values of the RLC PDU returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1 & Padding
4	→		UPLINK RLC PDU	No LI
5	→		UPLINK RLC PDU	Check Lis and re-assembled SDU
6			RB RELEASE	Optional step

7.2.2.3.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have a LI indicating the PDU contains an SDU boundary after octet 1 of the data field, and the second shall indicate that the remainder of the PDU contains padding.

The length and data content of the received SDU should be the same as the transmitted SDU.

7.2.2.4 Segmentation / 7-bit Length Indicators / LI = 0

7.2.2.4.1 Definition

Tests the behaviour of the RLC when an SDU exactly fills a PU.

This test applies to all UE.

7.2.2.4.2 Conformance requirement

If the PDU is exactly filled with the last segment of a SDU and there is no room for a length indicator field a length indicator field set to only 0's shall be included in the next PDU.

Reference(s)

TS 25.322 Clause 11.2.2.1

7.2.2.4.3 Test purpose

To test that where an SDU exactly fills a PU, an LI of value zero is placed as the first LI in the next PU.

7.2.2.4.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 7-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 17 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 34 bytes.

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1
4	←		DOWNLINK RLC PDU	LI=0 and padding
5	→		UPLINK RLC PDU	No Lis
6	→		UPLINK RLC PDU	Check Lis and re-assembled SDU
7			RB RELEASE	Optional step

7.2.2.4.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have an LI indicating that the SDU exactly filled the previous PU, and an LI indicating that the remainder of the PDU contains padding.

The length of the received SDU should be 17 bytes, and the data content the same as the first 17 bytes of the transmitted SDU.

7.2.2.5 Segmentation / 7-bit Length Indicators / Invalid LI value

7.2.2.5.1 Definition

Tests the behaviour of the RLC when a PDU contains an invalid length indicator.

This test applies to all UE.

7.2.2.5.2 Conformance requirement

Upon reception of an UMD PDU that contains Length Indicator value 1111110 ("piggybacked STATUS PDU") the receiver shall discard that UMD PDU.

Reference(s)

TS 25.322 Clause 11.2.4.1.

7.2.2.5.3 Test purpose

To test that PDUs with invalid length indicators are discarded by the receiving RLC.

7.2.2.5.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 7-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1with the UL SDU size set to 24 bytes.

Test procedure

a) The SS transmits two RLC SDUs of size 24 bytes. In the third PDU for transmission, the SS sets the value of the second (padding) LI to 1111110.

b) The SS checks the length indicator sizes and values of any RLC PDUs returned on the uplink, and checks for the presence of any received RLC SDUs.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1 & SDU 2
4	←		DOWNLINK RLC PDU	SDU 2 and invalid LI (=11111110)
5	→		UPLINK RLC PDU	SDU 1
6	→		UPLINK RLC PDU	SDU 1: Check Lis and re-assembled SDU
7			RB RELEASE	Optional step

7.2.2.5.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have a LI indicating the end of the SDU, and a padding LI.

The length and data content of the received SDU should be the same as the first transmitted SDU. The second SDU should not be returned.

7.2.2.6 Segmentation / 7-bit Length Indicators / LI value > PDU size

7.2.2.6.1 Definition

Tests the behaviour of the RLC when a PDU contains an invalid length indicator.

This test applies to all UE.

7.2.2.6.2 Conformance requirement

If the length indicator of a PDU has a value that is larger than the PDU size, the PDU shall be discarded and treated as a missing PDU.

If a PDU with sequence number < VR(US) is missing then all SDUs that have segments in this PDU shall be discarded.

Reference(s)

TS 25.322 Clauses 11.2.4.2 and 11.2.3.

7.2.2.6.3 Test purpose

To test that PDUs with length indicators that point beyond the end of the PDU are discarded by the receiving RLC.

7.2.2.6.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 7-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 24 bytes.

Test procedure

a) The SS transmits three RLC SDUs of size 24 bytes. All the SDUs are concatenated or segmented over successive RLC PDUs. In the third PDU for transmission, the SS sets value of the length indicator to be 18 (decimal).

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDUs.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1 & SDU 2
4	←		DOWNLINK RLC PDU	SDU 2 & SDU 3, with bad LI
5	←		DOWNLINK RLC PDU	SDU 3
6	←		DOWNLINK RLC PDU	SDU 3 and padding
7	→		UPLINK RLC PDU	SDU 1
8	→		UPLINK RLC PDU	SDU 1 and padding: Check Lis and re-assembled SDU
9			RB RELEASE	Optional step

7.2.2.6.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have a LI indicating the end of an SDU and an LI indicating that the remainder of the PDU contains padding.

The length and data content of the received SDU should be the same as the first transmitted SDU. No further SDUs or PDUs should be received.

7.2.2.7 Segmentation / 7-bit Length Indicators / First data octet LI

7.2.2.7.1 Definition

Tests the behaviour of the UM RLC when the first data octet of the PDU contains the first octet of an SDU.

This test applies to all UE.

7.2.2.7.2 Conformance requirement

LI = 1111100, UMD PDU: The first data octet in this RLC PDU is the first octet of a RLC SDU.

Reference(s)

TS 25.322 Clause 9.2.2.8.

7.2.2.7.3 Test purpose

To test that where the previous PDU contains the end of an SDU and padding, the start of the next SDU is coincident with the start of the next PDU, and is marked by a length indicator of 1111100.

7.2.2.7.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 7-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 12 bytes.

Test procedure

a) The SS transmits a normal RLC SDU of size 12 bytes.

b) The SS waits until the SDU has been received back from the UE, and then transmits another SDU of 12 bytes.

c) The SS waits until this SDU has been received back from the UE.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3			…	Wait for loopback
4	→		UPLINK RLC PDU	SDU 1
5	←		DOWNLINK RLC PDU	SDU 2 with LI = 1111100
6	→		UPLINK RLC PDU	SDU 2 with LI = 1111100
7			RB RELEASE	Optional step

7.2.2.7.5 Test requirements

The UE shall return two RLC PDUs. The second shall have a LI indicating that the first octet of the PDU contains the first octet of an SDU.

The length and data content of each received SDU should be the same as the transmitted SDU.

7.2.2.87 Segmentation / 15-bit Length Indicators / Padding

7.2.2.87.1 Definition

The RLC segments SDUs into blocks according to the configured payload unit size. Length indicators are added to indicate: the boundaries of SDUs within a PU, the addition of padding bytes.

This test applies to UE that support packet data.

7.2.2.87.2 Conformance requirement

The Length Indicator is used to indicate, each time, the end of an *S*DU occurs in the PU. The Length Indicator points out the number of octets between the end of the last Length Indicator field and up to and including the octet at the end of an SDU segment

A PU that has unused space, to be referred to as padding, must use a Length Indicator to indicate that this space is used as padding. A padding Length Indicator must be placed after any Length Indicators for a PU.

One length indicator field shall be included for each end of a SDU that the PDU includes. The length indicator shall be set equal to the number octets between the end of the header fields and the end of the segment. If padding is needed another length indicator shall be added

Reference(s)

TS 25.322 Clauses 9.2.2.8 and 11.2.2.1.

7.2.2.87.3 Test purpose

To test that a large SDU is correctly segmented and padding added at the end.

7.2.2.87.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 15-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 161 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 161 bytes.

b) The SS checks the length indicator sizes and values of the RLC PDU returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1 & Padding
4	→		UPLINK RLC PDU	No LI
5	→		UPLINK RLC PDU	Check Lis and re-assembled SDU
6			RB RELEASE	Optional step

7.2.2.87.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have a LI indicating the PDU contains an SDU boundary after octet 1 of the data field, and the second shall indicate that the remainder of the PDU contains padding.

The length and data content of the received SDU should be the same as the transmitted SDU.

7.2.2.98 Segmentation / 15-bit Length Indicators / LI = 0

7.2.2.98.1 Definition

Tests the behaviour of the RLC when an SDU exactly fills a PU.

This test applies to all UE.

7.2.2.98.2 Conformance requirement

If the PDU is exactly filled with the last segment of a SDU and there is no room for a length indicator field a length indicator field set to only 0's shall be included in the next PDU.

Reference(s)

TS 25.322 Clause 11.2.2.1.

7.2.2.98.3 Test purpose

To test that where an SDU exactly fills a PU, an LI of value zero is placed as the first LI in the next PU.

7.2.2.98.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 15-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 160 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 320 bytes.

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1
4	←		DOWNLINK RLC PDU	LI=0 and padding
5	→		UPLINK RLC PDU	No Lis
6	→		UPLINK RLC PDU	Check Lis and re-assembled SDU
7			RB RELEASE	Optional step

7.2.2.9~~8~~.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have an LI indicating that the SDU exactly filled the previous PU, and an LI indicating that the remainder of the PDU contains padding.

The length of the received SDU should be 160 bytes, and the data content the same as the first 160 bytes of the transmitted SDU.

7.2.2.10~~9~~ Segmentation / 15-bit Length Indicators / One octet short LI

7.2.2.10~~9~~.1 Definition

Tests the behaviour of the RLC when 15-bit length indicators are used, and an SDU fills a PU to one byte short of the payload size.

This test applies to all UE that support packet data.

7.2.2.10~~9~~.2 Conformance requirement

In the case where the last segment of an RLC SDU is one octet short of exactly filling the last RLC PU, and 15-bit Length Indicators are used, the next Length Indicator shall be placed as the first Length Indicator in the next PU and have value LI=111 1111 1111 1011.

Reference(s)

TS 25.322 Clause 9.2.2.8.

7.2.2.10~~9~~.3 Test purpose

To test that where an SDU is one byte short of filling a PU, an LI indicating one byte short is placed as the first LI in the next PU.

7.2.2.10~~9~~.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 15-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 159 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 320 bytes.

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1
4	←		DOWNLINK RLC PDU	LI=0 and padding
5	→		UPLINK RLC PDU	No Lis
6	→		UPLINK RLC PDU	Check Lis and re-assembled SDU
7			RB RELEASE	Optional step

7.2.2.10~~9~~.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have an LI indicating that the SDU was one byte short of filling the previous PU, and an LI indicating that the remainder of the PDU contains padding.

The length of the received SDU should be 159 bytes, and the data content the same as the first 159 bytes of the transmitted SDU.

7.2.2.1~~1~~0 Segmentation / 15-bit Length Indicators / LI value > PDU size

7.2.2.1~~1~~0.1 Definition

Tests the behaviour of the RLC when a PDU contains an invalid length indicator.

This test applies to all UE.

7.2.2.1~~1~~0.2 Conformance requirement

If the length indicator of a PDU has a value that is larger than the PDU size, the PDU shall be discarded and treated as a missing PDU.

If a PDU with sequence number < VR(US) is missing then all SDUs that have segments in this PDU shall be discarded.

Reference(s)

TS 25.322 Clauses 11.2.4.2 and 11.2.3.

7.2.2.1~~1~~0.3 Test purpose

To test that PDUs with length indicators that point beyond the end of the PDU are discarded by the receiving RLC.

7.2.2.11~~0~~.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 15-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 220 bytes.

Test procedure

a) The SS transmits three RLC SDUs of size 220 bytes. All the SDUs are concatenated or segmented over successive RLC PDUs. In the third PDU for transmission, the SS sets value of the length indicator to be 161 (decimal).

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDUs.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1 & SDU 2
4	←		DOWNLINK RLC PDU	SDU 2 & SDU 3, with bad LI
5	←		DOWNLINK RLC PDU	SDU 3
6	←		DOWNLINK RLC PDU	SDU 3 and padding
7	→		UPLINK RLC PDU	SDU 1
8	→		UPLINK RLC PDU	SDU 1 and padding: Check Lis and re-assembled SDU
9			RB RELEASE	Optional step

7.2.2.11~~0~~.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have a LI indicating the end of an SDU and an LI indicating that the remainder of the PDU contains padding.

The length and data content of the received SDU should be the same as the first transmitted SDU. No further SDUs or PDUs should be received.

7.2.2.12 Segmentation / 15-bit Length Indicators / First data octet LI

7.2.2.12.1 Definition

Tests the behaviour of the UM RLC when the first data octet of the PDU contains the first octet of an SDU.

This test applies to all UE.

7.2.2.12.2 Conformance requirement

LI = 111111111111100, UMD PDU: The first data octet in this RLC PDU is the first octet of a RLC SDU.

Reference(s)

TS 25.322 Clause 9.2.2.8.

7.2.2.12.3 Test purpose

To test that where the previous PDU contains the end of an SDU and padding, the start of the next SDU is coincident with the start of the next PDU, and is marked by a length indicator of 111111111111100.

7.2.2.12.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for UM 15-bit length indicator tests in Clause 7.2.2.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 150 bytes.

Test procedure

a) The SS transmits a normal RLC SDU of size 150 bytes.

b) The SS waits until the SDU has been received back from the UE, and then transmits another SDU of 150 bytes.

c) The SS waits until this SDU has been received back from the UE.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3			…	Wait for loopback
4	→		UPLINK RLC PDU	SDU 1
5	←		DOWNLINK RLC PDU	SDU 2 with LI = 111111111111100
6	→		UPLINK RLC PDU	SDU 2 with LI = 111111111111100
7			RB RELEASE	Optional step

7.2.2.12.5 Test requirements

The UE shall return two RLC PDUs. The second shall have a LI indicating that the first octet of the PDU contains the first octet of an SDU.

The length and data content of each received SDU should be the same as the transmitted SDU.

7.2.3 Acknowledged mode

7.2.3.1 General information for AM tests

A generic Radio Access Bearer is provided for AM tests. This RAB is based upon the Stand-alone 3.4kbps UL/DL Signalling RB, with an additional AM 3.4kbps path mapped to a DTCH. This logical channel is multiplexed on the same transport channel as the DCCH.

The AM test RAB is set up using the Generic Procedure described in Clause 7.1.3 of TS 34.108, and with the default RAB replaced as shown in Tables 7.2/3A and 7.23B:

Higher layer	RAB/signalling RB		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**	**RAB #1**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio	User Plane
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH	DTCH
	RLC mode		UM	AM	AM	AM	AM
	Payload sizes, bit		136	128	128	128	128
	Max data rate, bps		3400	3200	3200	3200	3200
	RLC header, bit		8	16	16	16	16
MAC	MAC header, bit		4	4	4	4	4
	MAC multiplexing		4 logical channel multiplexing				
Layer 1	TrCH type		DCH				
	TB sizes, bit		148				
	TFS	TF0, bts	0				
		TF1, bits	1x148				
	TTI, ms		40				
	Coding type		CC 1/3				
	CRC, bit		16				
	Max number of bits/TTI before rate matching		516				
	Uplink: Max number of bits/radio frame before rate matching		129				

Table 7.2/3A RAB Configuration for AM testing (7-bit Lis)

Unless specified in individual test cases, the default RLC settings are given in Table 7.2/3.

Uplink RLC	
Transmission RLC discard	
Max DAT retransmissions	
Max_DAT	4
Transmission window size	128
Timer_RST	500
Max_RST	4
Polling info	
Timer_poll_prohibit	disabled
Timer_poll	disabled
Poll_PU	disabled
Poll_SDU	disabled
Last transmission PU poll	TRUE
Last retransmission PU poll	TRUE
Poll_Window	disabled
Timer_poll_periodic	disabled
Downlink RLC	
In-sequence delivery	TRUE
Receiving window size	128
Timer_Status_Prohibit	disabled
Timer_EPC	disabled
Missing PU Indicator	TRUE
Timer_STATUS_periodic	disabled

Table 7.2/3B RLC Parameters for AM testing

The AM test RAB is used in all tests with the following exceptions:

- Tests that only involve 15-bit length indicators

- Tests that explicitly specify a different Radio Bearer configuration

Tests that involve only 15-bit length indicators require a modified Radio Bearer configuration. To accommodate the larger payload size, these tests use a coded composite transport channel consisting of two DCH. The first DCH is specified as for the 7-bit length indicators, but not including the DTCH (RAB#1). This is shown in Table 7.2/4A

Higher layer	Signalling RB: **DCH 0**		**SRB#1**	**SRB#2**	**SRB#3**	**SRB#4**
	User of Radio Bearer		RRC	RRC	NAS_DT High prio	NAS_DT Low prio
RLC	Logical channel type		DCCH	DCCH	DCCH	DCCH
	RLC mode		UM	AM	AM	AM
	Payload sizes, bit		136	128	128	128
	Max data rate, bps		3400	3200	3200	3200
	RLC header, bit		8	16	16	16
MAC	MAC header, bit		4	4	4	4
	MAC multiplexing		4 logical channel multiplexing			
Layer 1	TrCH type		DCH			
	TB sizes, bit		148			
	TFS	TF0, bts	0			
		TF1, bits	1x148			
	TTI, ms		40			
	Coding type		CC 1/3			
	CRC, bit		16			
	Max number of bits/TTI before rate matching		516			
	Uplink: Max number of bits/radio frame before rate matching		129			

Table 7.2/4A SRB Configuration for AM testing (15-bit Lis)

This DCH is combined with a traffic DCH (at lower MAC priority) as described in Table 7.2/4B

Higher layer	RAB: **DCH 1**		**RAB**
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		1280
	Max data rate, bps		64000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		1296
	TFS	TF0, bits	0
		TF1, bits	1x1296
	TTI, ms		20
	Coding type		TC
	CRC, bit		16

Table 7.2/4B RAB Configuration for UM testing (15-bit Lis)

All other settings are the same.

7.2.3.2 Segmentation and reassembly / Selection of 7 or 15 bit Length Indicators

7.2.3.2.1 Definition

Tbe UM RLC entity should select the appropriate length indicator size dependant upon the signaled PU size.~~For RLC PDUs smaller than 124 bytes in length, the UE RLC should assume received PDUs have 7-bit length indicators, and for PDUs of 124 bytes and larger the UE should assume 15-bit length indicators. The UE should also add the same size length indicators to outgoing RLC PDUs.~~

This requirement applies to all UE~~ that support RLC PDU sizes of 124 bytes or greater~~.

7.2.3.2.2 Conformance requirement

The size of the Length Indicator may be either 7bits or 15bits.

For AM, 7bit indicators shall be used if the AMD PDU size is ≤ l26 octets. Otherwise 15bit indicators shall be used~~If RLC PDUs always carry only one PU, 7bit indicators are used in a particular RLC PDU if the address space is sufficient to indicate all SDU segment borders. Otherwise 15bit Length Indicators are applied~~.

The length of the Length Indicator only depends on the size of the largest RLC PDU. The length of the Length Indicator is always the same for all PUs, for one RLC entity.

RLC SDUs might be segmented. If possible, the last segment of a SDU shall be concatenated with the first segment of the next SDU in order to fill the data field completely and avoid unnecessary padding

Reference(s)

TS 25.322 Clauses 9.2.2.8, 9.2.2.9

7.2.2.2.3 Test purpose

To test that if PDU carries a single PU, and the PU size is small enough that a 7 bit indicator is sufficient, 7 bit indicators are used, otherwise, 15 bit indicators are used.

7.2.3.2.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the following exceptions:

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		960
	Max data rate, bps		48000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		976
	TFS	TF0, bits	0
		TF1, bits	1x976
	TTI, ms		20
	Coding type		TC
	CRC, bit		16

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 40 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 80 bytes. The PDU carrying this SDU is transmitted with a poll for status.

b) The SS checks the length indicator sizes and values of the RLC PDU returned on the uplink.

c) The SS reconfigures the Transport Channel as follows:

Higher layer	RAB/Signalling RB		RAB
RLC	Logical channel type		DTCH
	RLC mode		AM
	Payload sizes, bit		1280
	Max data rate, bps		64000
	RLC header, bit		16
MAC	MAC header, bit		0
	MAC multiplexing		N/A
Layer 1	TrCH type		DCH
	TB sizes, bit		1296
	TFS	TF0, bits	0
		TF1, bits	1x1296
	TTI, ms		20
	Coding type		TC
	CRC, bit		16

All other settings the same.

d) The SS transmits an RLC SDUs of size 80 bytes. The PDU carrying this SDU is transmitted with a poll for status.

e) The SS checks the length indicator sizes and values of the RLC PDU returned on the uplink

f) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	80 byte SDU + padding + poll
3	→		UPLINK RLC PDU	40 byte SDU + piggy-backed status + poll
3a	→		*STATUS PDU*	*If piggy-backed status is not used in 3*
4	←		STATUS PDU	
5	←		TRANSPORT CHANNEL RECONFIGURATION	PU size > 127 bytes
6	←		DOWNLINK RLC PDU	80 byte SDU + padding + poll
7	→		UPLINK RLC PDU	40 byte SDU + piggy-backed status + poll
7a	→		*STATUS PDU*	*If piggy-backed status is not used in 7*
8	←		STATUS PDU	
9			RB RELEASE	Optional step

7.2.3.2.5 Test requirements

The UE shall send 7 bit length indicators with values that correctly indicate the end of SDU in step b).

The UE shall send 15 bit length indicators with values that correctly indicate the end of SDU in step e).

7.2.3.3 Segmentation / 7-bit Length Indicators / Padding or Piggy-backed Status

7.2.3.3.1 Definition

The RLC segments SDUs into blocks according to the configured payload unit size. Length indicators are added to indicate: the boundaries of SDUs within a PU, the addition of padding bytes.

This test applies to all UE.

7.2.3.3.2 Conformance requirement

The Length Indicator is used to indicate, each time, the end of an *S*DU occurs in the PU. The Length Indicator points out the number of octets between the end of the last Length Indicator field and up to and including the octet at the end of an SDU segment

A PU that has unused space, to be referred to as padding, must use a Length Indicator to indicate that this space is used as padding. A padding Length Indicator must be placed after any Length Indicators for a PU.

If padding or piggybacking is added another length indicator shall be added, see subclause 9.2.2.8

Reference(s)

TS 25.322 Clauses 9.2.2.8 and 11.3.2.1.2.

7.2.3.3.3 Test purpose

To test that a large SDU is correctly segmented and padding added at the end.

7.2.3.3.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 17 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 17 bytes, and polls the receiver for status.

b) The SS checks the length indicator sizes and values of the RLC PDU returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2		←	DOWNLINK RLC PDU	SDU 1
3		←	DOWNLINK RLC PDU	SDU 1 +poll + Padding
4		→	UPLINK RLC PDU	No LI
5		→	UPLINK RLC PDU	Check Lis and re-assembled SDU
5a		→	*STATUS PDU*	*If piggy-backed status is not used in 5*
6		←	STATUS PDU	
7			RB RELEASE	Optional step

7.2.3.3.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have a LI indicating the PDU contains an SDU boundary after octet 1 of the data field, and the second shall indicate either that the remainder of the PDU contains padding, or that it contains a piggy-backed status PDU.

The length and data content of the received SDU should be the same as the transmitted SDU.

7.2.3.4 Segmentation / 7-bit Length Indicators / LI = 0

7.2.3.4.1 Definition

Tests the behaviour of the RLC when an SDU exactly fills a PU.

This test applies to all UE.

7.2.3.4.2 Conformance requirement

If the PDU is exactly filled with the last segment of a SDU and there is no room for a length indicator field a length indicator field set to only 0's shall be included in the next PDU.

Reference(s)

TS 25.322 Clause 11.3.2.1.

7.2.3.4.3 Test purpose

To test that where an SDU exactly fills a PU, an LI of value zero is placed as the first LI in the next PU.

7.2.3.4.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 16 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 32 bytes. The SS polls the receiver for status in the last RLC PDU sent.

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1
4	←		DOWNLINK RLC PDU	LI=0, poll and padding
5	→		UPLINK RLC PDU	No Lis
6	→		UPLINK RLC PDU	(Poll) Check Lis and re-assembled SDU
6a	→		*STATUS PDU*	*If piggy-backed status is not used in 6*
7	←		STATUS PDU	
8			RB RELEASE	Optional step

7.2.3.4.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have an LI indicating that the SDU exactly filled the previous PU, and an LI indicating either that the remainder of the PDU contains padding, or that it contains a piggy-backed STATUS PDU.

The length of the received SDU should be 16 bytes, and the data content the same as the first 16 bytes of the transmitted SDU.

7.2.3.5 Segmentation / 7-bit Length Indicators / Reserved LI value

7.2.3.5.1 Definition

Tests the behaviour of the RLC when a PDU contains an invalid length indicator.

This test applies to all UE.

7.2.3.5.2 Conformance requirement

Upon reception of an AMD PDU that contains Length Indicator value “1111100” or “1111101”: PDUs with this coding will be discarded by this version of the protocol.

Reference(s)

TS 25.322 Clause 9.2.2.8.

7.2.3.5.3 Test purpose

To test that PDUs with reserved length indicators are discarded by the receiving RLC.

7.2.3.5.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Downlink RLC Timer_STATUS_periodic	200

These settings apply to both the uplink and downlink DTCH.

Test procedure

a) The SS transmits two RLC SDUs of size 24 bytes. In the second PDU, the SS sets the value of the LI to 1111100. In the fourth PDU for transmission, the SS sets the value of the second (padding) LI to 1111101.

b) The SS waits to receive a status report from the UE.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU #0	SDU 1
3	←		DOWNLINK RLC PDU #1	SDU 1 + SDU 2, LI = 1111100
4	←		DOWNLINK RLC PDU #2	SDU 2
5	←		DOWNLINK RLC PDU #3	SDU 2 + poll, second LI =1111101
6	→		STATUS PDU	Nack PDUs 1 and 3
7			RB RELEASE	Optional step

7.2.3.5.5 Test requirements

The UE shall return a STATUS PDU indicating that PDUs with sequence numbers 1 and 3 were incorrectly received.

7.2.3.6 Segmentation / 7-bit Length Indicators / LI value > PDU size

7.2.3.6.1 Definition

Tests the behaviour of the RLC when a PDU contains an invalid length indicator.

This test applies to all UE.

7.2.3.6.2 Conformance requirement

If the length indicator of a PDU has a value that is larger than the PDU size, the PDU shall be discarded and treated as a missing PDU.

Reference(s)

TS 25.322 Clause 11.3.4.5.

7.2.3.6.3 Test purpose

To test that PDUs with length indicators that point beyond the end of the PDU are discarded by the receiving RLC.

7.2.3.6.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

Test procedure

a) The SS transmits three RLC SDUs of size 23 bytes. All the SDUs are concatenated or segmented over successive RLC PDUs. In the third PDU for transmission, the SS sets value of the length indicator to be 17 (decimal).

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDUs.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2		←	DOWNLINK RLC PDU #0	SDU 1
3		←	DOWNLINK RLC PDU #1	SDU 1 & SDU 2
4		←	DOWNLINK RLC PDU #2	SDU 2 & SDU 3, with bad LI
5		←	DOWNLINK RLC PDU #3	SDU 3
6		←	DOWNLINK RLC PDU #4	SDU 3, poll and padding
7		→	STATUS PDU	Nack PDU #2
8			RB RELEASE	Optional step

7.2.3.6.5 Test requirements

The UE shall indicate that the PDU with sequence number 2 was not received correctly.

7.2.3.7 Segmentation / 15-bit Length Indicators / Padding or Piggy-backed Status

7.2.3.7.1 Definition

The RLC segments SDUs into blocks according to the configured payload unit size. Length indicators are added to indicate: the boundaries of SDUs within a PU, the addition of padding bytes.

This test applies to all UE.

7.2.3.7.2 Conformance requirement

The Length Indicator is used to indicate, each time, the end of an *S*DU occurs in the PU. The Length Indicator points out the number of octets between the end of the last Length Indicator field and up to and including the octet at the end of an SDU segment

A PU that has unused space, to be referred to as padding, must use a Length Indicator to indicate that this space is used as padding. A padding Length Indicator must be placed after any Length Indicators for a PU.

If padding or piggybacking is added another length indicator shall be added, see subclause 9.2.2.8

Reference(s)

TS 25.322 Clauses 9.2.2.8 and 11.3.2.1.2.

7.2.3.7.3 Test purpose

To test that a large SDU is correctly segmented and padding added at the end.

7.2.3.7.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 15-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 161 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 161 bytes, and polls the receiver for status.

b) The SS checks the length indicator sizes and values of the RLC PDU returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1 +poll + Padding
4	→		UPLINK RLC PDU	No LI
5	→		UPLINK RLC PDU	Check Lis and re-assembled SDU
5a	→		*STATUS PDU*	*If piggy-backed status is not used in 5*
6	←		STATUS PDU	
7			RB RELEASE	Optional step

7.2.3.7.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have a LI indicating the PDU contains an SDU boundary after octet 1 of the data field, and the second shall indicate either that the remainder of the PDU contains padding, or that it contains a piggy-backed status PDU.

The length and data content of the received SDU should be the same as the transmitted SDU.

7.2.3.8 Segmentation / 15-bit Length Indicators / LI = 0

7.2.3.8.1 Definition

Tests the behaviour of the RLC when an SDU exactly fills a PU.

This test applies to all UE.

7.2.3.8.2 Conformance requirement

If the PDU is exactly filled with the last segment of a SDU and there is no room for a length indicator field a length indicator field set to only 0's shall be included in the next PDU.

Reference(s)

TS 25.322 Clause 11.3.2.1.

7.2.3.8.3 Test purpose

To test that where an SDU exactly fills a PU, an LI of value zero is placed as the first LI in the next PU.

7.2.3.8.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 15-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 160 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 320 bytes. The SS polls the receiver for status in the last RLC PDU sent.

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1
4	←		DOWNLINK RLC PDU	LI=0, poll and padding
5	→		UPLINK RLC PDU	No Lis
6	→		UPLINK RLC PDU	(Poll) Check Lis and re-assembled SDU
6a	→		*STATUS PDU*	*If piggy-backed status is not used in 6*
7	←		STATUS PDU	
8			RB RELEASE	Optional step

7.2.3.8.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have an LI indicating that the SDU exactly filled the previous PU, and an LI indicating either that the remainder of the PDU contains padding, or that it contains a piggy-backed STATUS PDU.

The length of the received SDU should be 160 bytes, and the data content the same as the first 160 bytes of the transmitted SDU.

7.2.3.9 Segmentation / 15-bit Length Indicators / One octet short LI

7.2.3.9.1 Definition

Tests the behaviour of the RLC when 15-bit length indicators are used, and an SDU fills a PU to one byte short of the payload size.

This test applies to all UE.

7.2.3.9.2 Conformance requirement

In the case where the last segment of an RLC SDU is one octet short of exactly filling the last RLC PU, and 15-bit Length Indicators are used, the next Length Indicator shall be placed as the first Length Indicator in the next PU and have value LI=111 1111 1111 1011.

Reference(s)

TS 25.322 Clause 9.2.2.8.

7.2.3.9.3 Test purpose

To test that where an SDU is one byte short of filling a PU, an LI indicating one byte short is placed as the first LI in the next PU.

7.2.3.9.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 15-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

The radio bearer is placed into loop-back mode 1 with the UL SDU size set to 159 bytes.

Test procedure

a) The SS transmits an RLC SDU of size 320 bytes. The SS polls the receiver for status in the last RLC PDU sent.

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDU.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1
4	←		DOWNLINK RLC PDU	LI=0, poll and padding
5	→		UPLINK RLC PDU	No Lis
6	→		UPLINK RLC PDU	(Poll) Check Lis and re-assembled SDU
6a	→		*STATUS PDU*	*If piggy-backed status is not used in 6*
7	←		STATUS PDU	
8			RB RELEASE	Optional step

7.2.3.9.5 Test requirements

The UE shall return two RLC PDUs. The first shall have no LIs. The second shall have an LI indicating that the SDU was one byte short of filling the previous PU, and an LI indicating that the remainder of the PDU contains padding.

The length of the received SDU should be 159 bytes, and the data content the same as the first 159 bytes of the transmitted SDU.

7.2.3.10 Segmentation / 15-bit Length Indicators / Reserved LI value

7.2.3.10.1 Definition

Tests the behaviour of the RLC when a PDU contains an invalid length indicator.

This test applies to all UE.

7.2.3.10.2 Conformance requirement

Upon reception of an AMD PDU that contains Length Indicator value “111111111111100” or “111111111111101”: PDUs with this coding will be discarded by this version of the protocol.

Reference(s)

TS 25.322 Clause 9.2.2.8.

7.2.3.10.3 Test purpose

To test that PDUs with reserved length indicators are discarded by the receiving RLC.

7.2.3.10.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 15-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Downlink RLC Timer_STATUS_periodic	200

These settings apply to both the uplink and downlink DTCH.

Test procedure

a) The SS transmits two RLC SDUs of size 240 bytes. In the second PDU, the SS sets the value of the LI to 111111111111100. In the fourth PDU for transmission, the SS sets the value of the second (padding) LI to 111111111111101.

b) The SS waits to receive a status report from the UE.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU #0	SDU 1
3	←		DOWNLINK RLC PDU #1	SDU 1 + SDU 2, LI = 111111111111100
4	←		DOWNLINK RLC PDU #2	SDU 2
5	←		DOWNLINK RLC PDU #3	SDU 2 + poll, second LI =111111111111101
6	→		STATUS PDU	Nack PDUs 1 and 3
7			RB RELEASE	Optional step

7.2.3.10.5 Test requirements

The UE shall return a STATUS PDU indicating that PDUs with sequence numbers 1 and 3 were incorrectly received.

7.2.3.11 Segmentation / 15-bit Length Indicators / LI value > PDU size

7.2.3.11.1 Definition

Tests the behaviour of the RLC when a PDU contains an invalid length indicator.

This test applies to all UE.

7.2.3.11.2 Conformance requirement

If the length indicator of a PDU has a value that is larger than the PDU size, the PDU shall be discarded and treated as a missing PDU.

Reference(s)

TS 25.322 Clause 11.3.4.5.

7.2.3.11.3 Test purpose

To test that PDUs with length indicators that point beyond the end of the PDU are discarded by the receiving RLC.

7.2.3.11.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 15-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

Test procedure

a) The SS transmits three RLC SDUs of size 230 bytes. All the SDUs are concatenated or segmented over successive RLC PDUs. In the third PDU for transmission, the SS sets value of the length indicator to be 161 (decimal).

b) The SS checks the length indicator sizes and values of the RLC PDUs returned on the uplink, and checks the length and content of the received RLC SDUs.

c) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU #0	SDU 1
3	←		DOWNLINK RLC PDU #1	SDU 1 & SDU 2
4	←		DOWNLINK RLC PDU #2	SDU 2 & SDU 3, with bad LI
5	←		DOWNLINK RLC PDU #3	SDU 3
6	←		DOWNLINK RLC PDU #4	SDU 3, poll and padding
7	→		STATUS PDU	Nack PDU #2
8			RB RELEASE	Optional step

7.2.3.11.5 Test requirements

The UE shall indicate that the PDU with sequence number 2 was not received correctly.

7.2.3.12 Correct use of Sequence Numbering

7.2.3.12.1 Definition

Peer RLC entities use sequence numbering to detect missing PDUs, and for flow control purposes. This test checks that in basic, normal operation, the sequence numbering is interpreted correctly and applied correctly by the UE RLC layer.

This test applies to all UE.

7.2.3.12.2 Conformance requirement

PUs are sequentially and independently numbered and may have the value 0 through n minus 1 (where n is the modulus of the sequence numbers). The modulus equals 2^{12} for AM …; the sequence numbers cycle through the entire range: 0 through $2^{12} – 1$ for AM.

If the PDU is transmitted for the first time, the Sequence Number field shall be set equal to VT(S) and VT(S) shall be updated

Reference(s)

TS 25.322, Clauses 9.4 and 11.3.2.1.

7.2.3.12.3 Test purpose

1. To verify that the UE transmits the first PDU with the Sequence Number field equal to 0.
2. To verify that the UE increments the Sequence Number field according to the number of PUs transmitted.
3. To verify that the UE wraps the Sequence Number after transmitting the 2^{12}-1th PU.

7.2.3.12.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC Transmission window size	4096
Downlink RLC Receiving window size	4096

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 31 bytes.

Test procedure

a) The SS sends 2048 RLC SDUs to the UE, each of 31 bytes. The SS polls for status on each 128th RLC PDU transmitted

b) The SS checks the sequence numbers of the RLC PDUs it receives in the uplink

c) The SS checks the content of the SDUs it receives from the UE.

d) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU #0	
3	←		DOWNLINK RLC PDU #1	
			…	Transmission of DOWNLINK PDUs continues
4	→		UPLINK RLC PDU	SN should be set to 0
5	→		UPLINK RLC PDU	SN should be set to 1
	→		…	Transfer of RLC PDUs continues to SN = 4 095
6	←		DOWNLINK RLC PDU #4095	
7	←		DOWNLINK RLC PDU #0	
8	→		UPLINK RLC PDU	SN should be set to 4095
9	→		UPLINK RLC PDU	SN should be set to 0
10			RB RELEASE	Optional step

7.2.3.12.5 Test requirements

The first PDU received should have the SN field set to 0. The second PDU should have the SN field set to 1, and the 4 096th PDU should have the SN field set to 0.

The size and data content of the received SDUs shall match those of the transmitted SDUs.

7.2.3.13 Control of Transmit Window

7.2.3.13.1 Definition

This test is to check that the UE is able to correctly control its RLC transmission window. Correct operation of RLC windowing is critical for acknowledged mode operation.

This test applies to all UE.

7.2.3.13.2 Conformance requirement

The transmitter shall not transmit a new PU if VT(S) ≥ VT(MS).

The receiver is always allowed to change the Tx window size of the peer entity during a connection, but the minimum and the maximum allowed value is given by RRC configuration. The Rx window of the receiver is not changed.

Reference(s)

TS 25.322, Clauses 9.2.2.11.3 and 9.4.

7.2.3.13.3 Test purpose

1. To verify that the UE does not transmit PUs with sequence numbers outside of the transmit window, even when the transmit window size is changed by the receiver.

7.2.3.13.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC Transmission window size	 8
Downlink RLC Missing PU Indicator Receiving window size	 FALSE 8

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let W be the size of the transmit window.

The length of all transmitted SDUs is set to 15 bytes.

a) The SS transmits 3*W RLC SDUs to the UE, polling regularly.

b) The SS checks the RLC SDUs received on the uplink, but does not reply to poll requests from the UE, or transmit STATUS PDUs for any other reason.

c) After confirming that the UE has stopped transmitting new RLC SDUs for at least (2*W*TTI) ms, the SS transmits a STATUS PDU acknowledging all the RLC PDUs received so far.

d) The SS again checks the RLC SDUs received on the uplink, but does not reply to poll requests from the UE, or transmit further STATUS PDUs for any other reason.

e) After confirming that the UE has again stopped transmitting new RLC SDUs for at least (2*W*TTI) ms, the SS transmits a STATUS PDU acknowledging all the RLC PDUs received so far, and containing a WINDOW command to reduce the UE transmit window size (W) to half its initial size.~~.~~

~~f) The SS checks the RLC SDUs received on the uplink~~

~~.~~f) The SS checks the RLC SDUs received on the uplink, but does not reply to poll requests from the UE, or transmit STATUS PDUs for any other reason.

g) After confirming that the UE has stopped transmitting new RLC SDUs for at least (2*W*TTI) ms, the SS transmits a STATUS PDU acknowledging all the RLC PDUs received so far.

h) The SS checks the RLC SDUs received on the uplink.

~~g~~i) The SS may optionally release the radio bearer.

NOTE: Window arithmetic is carried out modulo 4096.

The test procedure is run with the window transmit window size set to the default (8), and the repeated with the transmit window size set to 1536.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 2
4	←		DOWNLINK RLC PDU	SDU 3
5	←		DOWNLINK RLC PDU	SDU 4
6	←		…	SS continues to transmit RLC SDUs
7	←		DOWNLINK RLC PDU	SDU 3W
8	→		UPLINK RLC PDU	SDU 1
9	→		UPLINK RLC PDU	SDU 2
10	→		…	SS continues to receive RLC SDUs
11	→		UPLINK RLC PDU	SDU W
12				No new transmissions from UE
13	←		STATUS PDU	
14	→		UPLINK RLC PDU	SDU W+1
15	→		UPLINK RLC PDU	SDU W+2
16	→		…	SS continues to receive RLC SDUs
17	→		UPLINK RLC PDU	SDU 2W
18				No new transmissions from UE
19	←		STATUS PDU	WINDOW = W/2
20	→		UPLINK RLC PDU	SDU 2W+1
21	→		UPLINK RLC PDU	SDU 2W+2
22	←		…	SS continues to receive RLC SDUs
23	→		UPLINK RLC PDU	SDU ~~3W~~2W + W/2
24				No new transmissions from UE
25	←		STATUS PDU	
26	→		UPLINK RLC PDU	SDU 2W+W/2+1
27	→		UPLINK RLC PDU	SDU 2W+W/2+2
28	←		…	SS continues to receive RLC SDUs
29	→		UPLINK RLC PDU	SDU 3W
~~24~~30			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.13.5 Test requirements

From steps 8 to 11, the SDU contents reassembled from the uplink shall match those of the first W transmitted SDUs.

At step 12 there shall be no further transmission on the uplink DTCH whilst the SS is waiting, except for any repeats of the last transmitted PDU.

After step 13, the UE shall resume transmission of the next W SDUs. The contents of these SDUs shall match those of SDUs W+1 to 2*W sent on the downlink.

At step 18 there shall be no further transmission on the uplink DTCH whilst the SS is waiting, except for any repeats of the last transmitted PDU.~~.~~

After step 19, the UE shall resume transmission of the next W/2 SDUs. The contents of these SDUs shall match those of SDUs 2*W+1 to ~~3*W~~2*W+W/2 sent on the downlink.

At step 24 there shall be no further transmission on the uplink DTCH whilst the SS is waiting, except for any repeats of the last transmitted PDU.

After step 25, the UE shall resume transmission of the next W/2 SDUs. The contents of these SDUs shall match those of SDUs 2*W+W/2+1 to 3*W sent on the downlink.

7.2.3.14 Control of Receive Window

7.2.3.14.1 Definition

This test is to check that the UE is able to correctly control its RLC receive window. Correct operation of RLC windowing is critical for acknowledged mode operation.

This test applies to all UE.

7.2.3.14.2 Conformance requirement

Upon reception of a PU with SN<VR(R) or SN≥VR(MR) the receiver shall discard the PU.

Reference(s)

TS 25.32, Clause 11.3.4.2.

7.2.3.14.3 Test purpose

1. To verify that the UE discards PUs with sequence numbers outside of the receive window.

7.2.3.14.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC Transmission window size	 8
Downlink RLC Missing PU Indicator Receiving window size	 FALSE 8

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let W be the size of the receive window.

The length of all transmitted SDUs is set to 15 bytes.

a) The SS transmits 2*W RLC SDUs to the UE, polling only on the last RLC PDU.

b) The SS checks the RLC SDUs received on the uplink, and after receiving the STATUS PDU from the UE it transmits a further RLC SDU. The SS sets the sequence numbers for the associated RLC PDU above the top of the receive window, for example, 2*W+1.

c) The SS transmits a further RLC SDU with the sequence number set to the value of the next sequence number within the receive window.

d) The SS checks the RLC SDUs received on the uplink.

e) The SS may optionally release the radio bearer.

This test case is run once for the default receive window size (8) and again with the receive window size set to 1536.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 2
4	←		…	SS continues to transmit RLC SDUs
5	←		DOWNLINK RLC PDU	SDU 2W + Poll
6	→		STATUS PDU	
7	→		UPLINK RLC PDU	SDU 1
8	→		UPLINK RLC PDU	SDU 2
9			…	UE continues to transmit RLC SDUs
10	→		UPLINK RLC PDU	SDU W
11	←		DOWNLINK RLC PDU	SDU 2W+1, SN = 2W+1
12	←		DOWNLINK RLC PDU	SDU 2W+2, SN = W+1
13	→		UPLINK RLC PDU	SDU 2W+2
14			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.14.5 Test requirements

The SS shall receive back SDUs 1 to W, and SDU 2*W + 2 only. No other SDUs shall be looped back.

7.2.3.15 Polling for status / Last PU in transmission queue

7.2.3.15.1 Definition

This case tests that the UE will poll for a status request on the last PU in its transmission queue when that mode is enabled. Incorrect operation of polling will cause degradation of service, or at worst service failure.

This test applies to all UE.

7.2.3.15.2 Conformance requirement

The Polling bit shall be set to 1 if any of following conditions are fulfilled except when the poll prohibit function is used and the timer Timer_Poll_Prohibit is active:

1. Last PU in buffer is used and the last PU available for transmission is transmitted.

Reference

25.322 Clause 11.3.2.1.1.

7.2.3.15.3 Test purpose

1. To verify that a poll is performed when only one PU is available for transmission, and the poll prohibit timer is function is not used.

2. To verify that a poll is performed when only one PU is available for transmission, and the poll prohibit timer is function is used, but inactive.

7.2.3.15.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	First run	Second run
Polling info		
Timer_poll_prohibit	disabled	200
Last transmission PU poll	TRUE	TRUE
Last retransmission PU poll	FALSE	FALSE

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 31 bytes.

Test procedure

a) The SS transmits an RLC SDU of length 63 bytes to the UE.

b) The SS checks the uplink RLC PDUs for a poll for status flag.

c) The SS may optionally release the radio bearer.

The test is repeated using the RLC parameters given in the Second run column of the configuration table for the initial conditions.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1
4	←		DOWNLINK RLC PDU	SDU 1
5	←		DOWNLINK RLC PDU	SDU 1 + Poll
6	→		STATUS PDU	
7	→		UPLINK RLC PDU	SDU 1
8	→		UPLINK RLC PDU	SDU 1 + Poll
9			RB RELEASE	Optional step

7.2.3.15.5 Test requirements

The Poll bit shall be set in the RLC Header of the PDU returned in step 8.

7.2.3.16 Polling for status / Last PU in retransmission queue

7.2.3.16.1 Definition

This case tests that the UE will poll for a status request on the last PU in its retransmission queue when that mode is enabled. Incorrect operation of polling will cause degradation of service, or at worst service failure.

This test applies to all UE.

7.2.3.16.2 Conformance requirement

The Polling bit shall be set to 1 if any of following conditions are fulfilled except when the poll prohibit function is used and the timer Timer_Poll_Prohibit is active:

1) …

2) Last PU in retransmission buffer is used and the last PU to be retransmitted is transmitted

Reference

25.322 Clause 11.3.2.1.1.

7.2.3.16.3 Test purpose

1. To verify that a poll is performed when only one PU is available for retransmission, and the poll prohibit timer is function is not used.

2. To verify that a poll is performed when only one PU is available for retransmission, and the poll prohibit timer is function is used, but inactive.

7.2.3.16.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	First run	Second run
Polling info		
Timer_poll_prohibit	disabled	200
Last transmission PU poll	FALSE	FALSE
Last retransmission PU poll	TRUE	TRUE

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 31 bytes.

Test procedure

a) The SS transmits an RLC SDU of length 63 bytes to the UE.

b) The SS checks the uplink RLC PDUs for a poll for status flag.

c) The SS transmits a STATUS PDU negatively acknowledging the uplink RLC PDUs as missing.

d) The SS waits for the RLC PDUs to be retransmitted and then checks the uplink RLC PDUs for a poll for status flag.

e) The SS may optionally release the radio bearer.

The test is repeated using the RLC parameters given in the Second run column of the configuration table for the initial conditions.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			RB ESTABLISHMENT	See generic procedures
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 1
4	←		DOWNLINK RLC PDU	SDU 1
5	←		DOWNLINK RLC PDU	SDU 1 + Poll
6	→		STATUS PDU	
7	→		UPLINK RLC PDU	SDU 1
8	→		UPLINK RLC PDU	SDU 1
9	←		STATUS PDU	NAK: SN=0 and SN=1
10	…			Wait for retransmission
11	→		UPLINK RLC PDU	SDU 1
12	→		UPLINK RLC PDU	SDU 1 + Poll
13			RB RELEASE	Optional step

7.2.3.16.5 Test requirements

The Poll bit shall be set in the RLC Header of the PDU returned in step 12.

7.2.3.17 Polling for status / Poll every Poll_PU PUs

7.2.3.17.1 Definition

This case tests that the UE will poll for a status request every Poll_PU PUs when that mode is enabled. Incorrect operation of polling will cause degradation of service, or at worst service failure.

This test applies to all UE.

7.2.3.17.2 Conformance requirement

VT(PU) should be incremented for both new and retransmitted PUs. When it reaches Poll_PU a new poll is transmitted and the state variable is set to zero.

The Polling bit shall be set to 1 if … Every Poll_PU PU is used and when VT(PU)=Poll_PU

Reference

25.322 Clauses 9. 4, 9.6 and 11.3.2.1.1.

7.2.3.17.3 Test purpose

1. To verify that a poll is performed when VT(PU) reaches Poll_PU.
2. To verify VT(PU) is incremented for both new and retransmitted PUs.

7.2.3.17.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	
Polling info	
Poll_PU	4
Last transmission PU poll	FALSE
Last retransmission PU poll	FALSE

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let the value of Poll_PU be P

a) The SS sends 2 * P + 2 RLC SDUs of size 15 bytes to the UE in PDUs with sequence numbers that are contiguous, starting from zero.

b) The SS checks the sequence numbers and polling bits of the RLC SDUs returned on the uplink.

c) The SS sends a STATUS PDU negatively acknowledging two RLC PDUs with a sequence numbers of already transmitted PDUs. The other PDUs are acknowledged as received correctly.

d) The SS checks the sequence numbers and polling bits of the RLC SDUs returned on the uplink.

e) The SS terminates the connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		DOWNLINK RLC PDU	SDU 2
3	←		…	SS continues to transmit RLC SDUs
4	←		DOWNLINK RLC PDU	SDU 2P+2
5	→		UPLINK RLC PDU	SDU 1
6	→		UPLINK RLC PDU	SDU 2
7	→		…	SS continues to receive RLC SDUs
8	→		UPLINK RLC PDU	SDU P, Poll
9	←		STATUS PDU	NAK SN=0 and SN=1
10	→		UPLINK RLC PDU	SDU 1
11	→		UPLINK RLC PDU	SDU 2
12	→		UPLINK RLC PDU	SDU P+1
13	→		UPLINK RLC PDU	SDU P+2, Poll
14	→		…	SS continues to receive RLC SDUs
15	→		UPLINK RLC PDU	SDU 2*P+2, Poll
16			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.17.5 Test requirements

The SS shall receive a poll for status in the RLC PDUs sent on the uplink in steps 8, 13 and 15 above.

7.2.3.18 Polling for status / Poll every Poll_SDU SDUs

7.2.3.18.1 Definition

This case tests that the UE will poll for a status request every Poll_SDU SDUs when that mode is enabled. Incorrect operation of polling will cause degradation of service, or at worst service failure.

This test applies to all UE.

7.2.3.18.2 Conformance requirement

The state variable VT(SDU) is used when the poll every Poll_SDU SDU function is used. It is incremented with 1 for each SDU that is transmitted. When it reaches Poll_SDU a new poll is transmitted and the state variable is set to zero. The poll bit should be set in the PU that contains the last segment of the SDU. The initial value of this variable is 0.

The Polling bit shall be set to 1 if … Every Poll_SDU is used and VT(SDU)=Poll_SDU and the PDU contains the last segment that SDU

Reference

25.322 Clauses 9. 4, 9.6 and 11.3.2.1.1.

7.2.3.18.3 Test purpose

1. To verify that a poll is performed when VT(SDU) reaches Poll_ SDU.
2. To verify that the poll is sent in the last PDU of the SDU.

7.2.3.18.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC Polling info Poll_SDU	 1

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 63 bytes.

Let the value of Poll_SDU be P.

a) The SS sends 2 * P RLC SDUs of size 15 bytes to the UE in PDUs with sequence numbers that are contiguous, starting from zero.

b) The SS checks the sequence numbers and polling bits of the RLC SDUs returned on the uplink.

c) The SS terminates the connection.

The test is repeated with Poll_SDU set to 64.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		←	DOWNLINK RLC PDU	SDU 1
2		←	DOWNLINK RLC PDU	SDU 2
3		←	…	SS continues to transmit RLC SDUs
4		←	DOWNLINK RLC PDU	SDU 2P
5		→	UPLINK RLC PDU	SDU 1 Expanded to 63 bytes by test function
6		→	UPLINK RLC PDU	
7		→	…	SS continues to receive RLC SDUs
8		→	UPLINK RLC PDU	SDU P, Poll
9		←	STATUS PDU	
10		→	UPLINK RLC PDU	SDU P+1 Expanded to 63 bytes by test function
11		→	UPLINK RLC PDU	
12		→	…	SS continues to receive RLC SDUs
13		→	UPLINK RLC PDU	SDU 2P, Poll
14			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.18.5 Test requirements

The UE shall return uplink PDUs that contain polls for status in sequence numbers 4 * P – 1 and 8 * P – 1. No other PDUs should poll for status.

7.2.3.19 Polling for status / Timer triggered polling (Timer_Poll_Periodic)

7.2.3.19.1 Definition

This case tests that the UE will poll for a status request every Timer_Poll_Periodic ms when that mode is enabled. Incorrect operation of polling will cause degradation of service, or at worst service failure.

This test applies to all UE.

7.2.3.19.2 Conformance requirement

The timer is started when the RLC entity is created. Each time the timer expires a poll is transmitted (either by the transmission of a PDU which was not yet sent, or by a retransmission) and the timer is restarted. If there is no PU to be transmitted and all PUs have already been acknowledged, a poll shall not be transmitted and the timer shall only be restarted.

The Polling bit shall be set to 1 if … timer based polling is used and Timer_Poll_Periodic has expired.

Reference

25.322 Clauses 9.5 and 11.3.2.1.1.

7.2.3.19.3 Test purpose

1. To verify that the UE polls the SS in the next PDU to be transmitted or retransmitted each time the Timer_Poll_Periodic timer expires.
2. To verify that if there is no PU to be transmitted, and all the PUs have already been acknowledged, the timer is restarted, but no poll is sent..

7.2.3.19.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	First run	Second run
Polling info		
Timer_poll_periodic	100	2000

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let T be the value of Timer_Poll_Periodic

a) The SS waits for at least 2*T ms before starting any transmissions, and monitors the uplink.

b) The SS sends T * 0.1 RLC SDUs of size 15 bytes to the UE.

c) The SS waits for the first PDU to be received with the P bit set, records the arrival time (T_1) and responds with a STATUS PDU normally.

d) The SS waits for the reception of the next PDU with the P bit set, records the arrival time (T_2), and then transmits a STATUS PDU reporting that none of the unacknowledged PDUs were correctly received.

e) The SS waits for the next PDU received with the P bit set, and records the arrival time (T_3).

f) The SS waits for the reception of the next PDU with the P bit set and records the arrival time (T_4).

g) The SS may optionally release the radio bearer.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		…	SS continues to transmit RLC SDUs
3	←		DOWNLINK RLC PDU	SDU 0.1T
4	→		UPLINK RLC PDU	SDU 1
5	→		UPLINK RLC PDU	SDU 2
6	→		…	SS continues to receive RLC PDUs
7	→		UPLINK RLC PDU	SN = ceil(T/TTI), Poll: Note T_1
8	←		STATUS PDU	ACK SN 0 to SN ceil(T/TTI)
9	→		UPLINK RLC PDU	SN = ceil(T/TTI)+1
10	→		…	SS continues to receive RLC PDUs
11	→		UPLINK RLC PDU	SN = ceil(2T/TTI), Poll: Note T_2
12	←		STATUS PDU	NAK SN ceil(T/TTI)+1 to SN ceil(2T/TTI)
13	→		UPLINK RLC PDU	PDUs including some retransmissions
14	→		UPLINK RLC PDU	
15	→		…	SS continues to receive RLC PDUs
16	→		UPLINK RLC PDU	Poll: Note T_3
17	←		STATUS PDU	Normal
18	→		…	SS continues to receive RLC PDUs
19	→		UPLINK RLC PDU	Poll: Note T_4
20			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.19.5 Test requirements

Time $T_2 - T_1$ should be T ± TTI ms.

Time $T_4 - T_3$ should be T ± TTI ms.

7.2.3.20 Polling for status / Polling on Poll_Window% of transmission window

7.2.3.20.1 Definition

This case tests that the UE will poll for a status request every Timer_Poll_Periodic ms when that mode is enabled. Incorrect operation of polling will cause degradation of service, or at worst service failure.

This test applies to all UE.

7.2.3.20.2 Conformance requirement

The Polling bit shall be set to 1 if … Poll_Window% of transmission window is used, and:

$$\left[1 - \frac{(Tx\_Window\_Size + \mathrm{VT(MS)} - \mathrm{VT(S)}) \mathrm{mod} Tx\_Window\_Size}{Tx\_Window\_Size} \right] * 100 > Poll\_Window$$

.

Reference

25.322 Clause 11.3.2.1.1.

7.2.3.20.3 Test purpose

1. To verify that the UE polls the SS once the window based polling equation is satisfied.

7.2.3.20.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	
Polling info	
Poll_Window	50
Transmission window size	8
Downlink RLC	
Receiving window size	8

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let W be the size of the transmission window.

a) The SS transmits (W/2) + 2 RLC SDUs of size 15 bytes.

b) The SS checks the sequence number of the first uplink PDU to be received with the P bit set.

c) The SS sends another RLC SDU of size 15 bytes.

d) The SS checks the sequence number of the next uplink PDU to be received with the P bit set.

e) The SS sends a STATUS PDU acknowledging the first two RLC PDUs received, followed by two further RLC SDUs.

f) The SS checks the sequence number of the next uplink PDU to be received with the P bit set

g) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		…	SS continues to transmit RLC SDUs
3	←		DOWNLINK RLC PDU	SDU W/2
4	→		UPLINK RLC PDU	SDU 1
5	→		UPLINK RLC PDU	SDU 2
6	→		…	SS continues to receive RLC PDUs
7	→		UPLINK RLC PDU	SN = W/2+1, Poll
3	←		DOWNLINK RLC PDU	
9	→		UPLINK RLC PDU	SN = W/2+2, Poll
8	←		STATUS PDU	ACK SN 0 to 3
3	←		DOWNLINK RLC PDU	
3	←		DOWNLINK RLC PDU	
11	→		UPLINK RLC PDU	SN = W/2+3
11	→		UPLINK RLC PDU	SN = W/2+4, Poll
20			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.20.5 Test requirements

The SS shall receive RLC PDUs with the P bit set in PDUs with sequence numbers of 5, 6 and 8. No other PDUs should have their P bits set.

7.2.3.21 Polling for status / Operation of Timer_Poll timer / Timer expiry

7.2.3.21.1 Definition

This case tests that the UE will retransmit a poll for status if it does not receive a STATUS PDU within Timer_Poll ms after a poll for status is transmitted. Incorrect operation of polling will cause degradation of service, or possible service failure.

This test applies to all UE.

7.2.3.21.2 Conformance requirement

The Polling bit shall be set to 1 if any of following conditions are fulfilled except when the poll prohibit function is used and the timer Timer_Poll_Prohibit is active

…

3) Poll timer is used and timer Timer_Poll has expired.

Upon expiry of the Timer_Poll the sender shall retransmit the poll. The poll can be retransmitted in either a new PDU or a retransmitted PDU.~~This timer is started when the transmitting side sends a poll to the peer entity. The timer is stopped when receiving a STATUS PDU that contains an acknowledgement or negative acknowledgement of the AMD PDU that triggered the timer.~~

~~If the timer expires and no STATUS PDU containing an acknowledgement or negative acknowledgement of the AMD PDU that triggered the timer has been received, the receiver is polled once more (either by the transmission of a PDU which was not yet sent, or by a retransmission) and the timer is restarted. If there is no PU to be transmitted and all PUs have already been acknowledged, the receiver shall not be polled.~~

~~If a new poll is sent when the timer is running it is restarted~~

~~The Polling bit shall be set to 1 if … Poll timer is used and timer Timer_Poll has expired~~

Reference

25.322 Clause~~s 9.5 and~~ 11.3.2.1.1 and 11.3.4.1.

7.2.3.21.3 Test purpose

1. To verify that if the timer expires and no STATUS PDU containing an acknowledgement or negative acknowledgement of the AMD PDUs up to that which triggered the timer has been received, the receiver is polled once more.

7.2.3.21.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	First run	Second run
Polling info		
Timer_poll	500	1000
Timer_Poll_Periodic	2000	2000

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let T be the value of the Timer_Poll_Periodic timer.

a) The SS transmits at least 2 * T / TTI SDUs of size 15 bytes..

b) The SS receives PDUs from the UE, and notes the time on receiving the first PU with the P bit set, but does not respond. This time will be recorded as T_1.

c) The SS continues to receive PDUs from the UE and notes the time on receipt of the next PU with the P bit set. This time will be recorded as T_2.

d) The SS may optionally release the radio bearer

The test case is run once for each set of initial RLC parameters.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		…	SS continues to transmit RLC SDUs
3	←		DOWNLINK RLC PDU	SDU ceil(2T/TTI)
4	→		UPLINK RLC PDU	SDU 1
5	→		UPLINK RLC PDU	SDU 2
6	→		…	SS continues to receive RLC PDUs
7	→		UPLINK RLC PDU	SN = ceil(T/TTI), Poll: Note T_1
8	→		UPLINK RLC PDU	SN = ceil(T/TTI)+1
9	→		…	SS continues to receive RLC PDUs
10	→		UPLINK RLC PDU	Poll: Note T_2
11			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.21.5 Test requirements

For the first run, the measured time $T_2 - T_1$ should be 500 ± 40 ms (TTI = 40 ms).

For the second run, the measured time $T_2 - T_1$ should be 1000 ± 40 ms.

7.2.3.22 Polling for status / Operation of Timer_Poll timer / Stopping Timer_Poll timer

7.2.3.22.1 Definition

This case tests that the UE will stop the Timer_Poll timer if it receives a STATUS PDU within Timer_Poll ms after a poll for status is transmitted. Incorrect operation of polling will cause degradation of service, or possible service failure.

This test applies to all UE.

7.2.3.22.2 Conformance requirement

The timer is stopped when receiving a STATUS PDU that contains an acknowledgement of all AMD PDUs with SN up to and including VT(S)-1 at the time the poll was transmitted (or a negative acknowledgement of the same PU).~~This timer is started when the transmitting side sends a poll to the peer entity. The timer is stopped when receiving a STATUS PDU that contains an acknowledgement or negative acknowledgement of the AMD PDU that triggered the timer.~~

~~If the timer expires and no STATUS PDU containing an acknowledgement or negative acknowledgement of the AMD PDU that triggered the timer has been received, the receiver is polled once more (either by the transmission of a PDU which was not yet sent, or by a retransmission) and the timer is restarted. If there is no PU to be transmitted and all PUs have already been acknowledged, the receiver shall not be polled.~~

~~If a new poll is sent when the timer is running it is restarted~~

Reference

25.322 Clause 9.5.

7.2.3.22.3 Test purpose

1. To verify that the timer is stopped when receiving a STATUS PDU that an acknowledgement of all AMD PDUs with SN up to and including VT(S)-1 at the time the poll was transmitted (or a negative acknowledgement of the same PU).~~contains an acknowledgement or negative acknowledgement of the AMD PDU that triggered the timer.~~

7.2.3.22.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	First run	Second run
Polling info		
Timer_poll	500	1000
Timer_Poll_Periodic	2000	2000

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let T be the value of the Timer_Poll_Periodic timer.

a) The SS transmits at least 2 * T / TTI SDUs of size 15 bytes.

b) The SS receives PDUs from the UE, and notes the time on receiving the first PDU with the P bit set. This time will be recorded as T_1.

c) The SS sends a STATUS PDU acknowledging all the PDUs up to and including the PDU carrying the poll request.

d) The SS continues to receive PDUs from the UE and notes the time on receipt of the next PU with the P bit set. This time will be recorded as T_2.

e) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		…	SS continues to transmit RLC SDUs
3	←		DOWNLINK RLC PDU	SDU ceil(2T/TTI)
4	→		UPLINK RLC PDU	SDU 1
5	→		UPLINK RLC PDU	SDU 2
6	→		…	SS continues to receive RLC PDUs
7	→		UPLINK RLC PDU	SN = ceil(T/TTI), Poll: Note T_1
8	←		STATUS PDU	ACK SN 0 to SN ceil(T/TTI)
9	→		UPLINK RLC PDU	SN = ceil(T/TTI)+1
10	→		…	SS continues to receive RLC PDUs
11	→		UPLINK RLC PDU	SN = ceil(2T/TTI), Poll: Note T_2
12			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.22.5 Test requirements

For both execution runs, the measured time $T_2 - T_1$ should be 2000 ± 40 ms (TTI = 40ms).

7.2.3.23 Polling for status / Operation of Timer_Poll timer / Restart of the Timer_Poll timer

7.2.3.23.1 Definition

This case tests that the UE will restart the Timer_Poll timer if another poll request is transmitted whilst the timer is running. Incorrect operation of polling will cause degradation of service, or possible service failure.

This test applies to all UE.

7.2.3.23.2 Conformance requirement

~~This timer is started when the transmitting side sends a poll to the peer entity. The timer is stopped when receiving a STATUS PDU that contains an acknowledgement or negative acknowledgement of the AMD PDU that triggered the timer.~~

~~If the timer expires and no STATUS PDU containing an acknowledgement or negative acknowledgement of the AMD PDU that triggered the timer has been received, the receiver is polled once more (either by the transmission of a PDU which was not yet sent, or by a retransmission) and the timer is restarted. If there is no PU to be transmitted and all PUs have already been acknowledged, the receiver shall not be polled.~~

If a new poll is sent when the timer is running it is restarted, with a new value of VT(S)-1.~~If a new poll is sent when the timer is running it is restarted~~

Reference

25.322 Clause 9.5.

7.2.3.23.3 Test purpose

1. To verify that if a new poll is sent when the timer is running it is restarted.

7.2.3.23.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	
Polling info	
Timer_poll	500
Poll_PU	10
Poll_SDU	12

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let T be the value of the Timer_Poll timer.

a) The SS starts transmission of at least Poll_SDU + ceil(T / TTI) SDUs of size 15 bytes.

b) Whilst transmitting, the SS receives PDUs from the UE, and notes the time on receiving the second PDU with the P bit set. This time will be recorded as T_1.

c) The SS sends a STATUS PDU acknowledging all the PDUs up to, but not including the PDU carrying the poll request.

d) The SS continues to receive PDUs from the UE and notes the time on receipt of the next PU with the P bit set. This time will be recorded as T_2.

e) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		…	SS continues to transmit RLC SDUs
3	←		DOWNLINK RLC PDU	SDU (Poll_SDU + ceil(T / TTI))
4	→		UPLINK RLC PDU	SDU 1
5	→		UPLINK RLC PDU	SDU 2
6	→		…	SS continues to receive RLC PDUs
7	→		UPLINK RLC PDU	SN = poll_PU - 1, Poll, Timer_Poll started
8	→		…	SS continues to receive RLC PDUs
9	→		UPLINK RLC PDU	SN = poll_SDU - 1, Poll, Timer_Poll restarted: Note T_1
10	←		STATUS PDU	ACK SN 0 to SN = poll_SDU - 2
11	→		UPLINK RLC PDU	SN = poll_SDU
12	→		…	SS continues to receive RLC PDUs
13	→		UPLINK RLC PDU	SN = poll_SDU + ceil(T/TTI), Poll: Note T_2
14			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.23.5 Test requirements

The measured time $T_2 - T_1$ should be 500 ± 40 ms (TTI = 40ms).

7.2.3.24 Polling for status / Operation of timer Timer_Poll_Prohibit

7.2.3.24.1 Definition

This case tests that the UE will not send a poll request within Timer_Poll_Prohibit ms of a previous poll request when this mode of operation is enabled. Incorrect operation of polling will cause degradation of service, or possible service failure.

This test applies to all UE.

7.2.3.24.2 Conformance requirement

This timer is used to prohibit transmission of polls within a certain period. A poll shall be delayed until the timer expires if a poll is triggered when the timer is active. Only one poll shall be transmitted when the timer expires even if several polls were triggered when the timer was active. If there is no PU to be transmitted and all PUs have already been acknowledged, a poll shall not be transmitted. This timer will not be stopped by a STATUS PDU. The value of the timer is signalled by RRC.

The Polling bit shall be set to 1 if any of following conditions are fulfilled except when the poll prohibit function is used and the timer Timer_Poll_Prohibit is active (the different triggers are described in 9.7.4).

Reference

25.322 Clauses 9.5 and 11.3.2.1.1.

7.2.3.24.3 Test purpose

1. To verify that no poll is transmitted if one or several polls are triggered when the Timer_Poll_Prohibit timer is active and has not expired.

7.2.3.24.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	
Polling info	
Timer_poll_prohibit	500
Poll_PU	10
Poll_SDU	12
Poll_Window	50
Transmission window size	32
Downlink RLC	
Receiving window size	32

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let T be the value of the Timer_Poll_Prohibit timer.

a) The SS starts transmission of at least (Transmission Window Size / 2) + ceil(T / TTI) SDUs of size 15 bytes.

b) Whilst transmitting, the SS receives PDUs from the UE, and notes the time on receiving the first PDU with the P bit set. This time will be recorded as T_1.

c) The SS does not respond to the poll request.

d) The SS continues to receive PDUs from the UE and notes the time on receipt of the next PU with the P bit set. This time will be recorded as T_2.

e) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		…	SS continues to transmit RLC SDUs
3	←		DOWNLINK RLC PDU	SDU Poll_PU
4	→		UPLINK RLC PDU	SDU 1
5	→		UPLINK RLC PDU	SDU 2
6	→		…	SS continues to receive RLC PDUs
7	→		UPLINK RLC PDU	SN = Poll_PU - 1, Poll: Note T_1
8	→		…	SS continues to receive RLC PDUs
9	→		UPLINK RLC PDU	SN = poll_SDU - 1, No Poll
10	→		UPLINK RLC PDU	SN = (Transmission Window Size / 2) – 1, No Poll
11	→		…	SS continues to receive RLC PDUs
12	→		UPLINK RLC PDU	SN = poll_PU + ceil(T/TTI), Poll: Note T_2
13			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.24.5 Test requirements

The measured time $T_2 - T_1$ should be 500 ± 40 ms (TTI = 40ms).

7.2.3.25 Receiver Status Triggers / Detection of missing PUs

7.2.3.25.1 Definition

This case tests that the UE transmits a status report whenever it detects that a PU is missing, if this mode of operation is enabled. Incorrect operation of status reporting will cause degradation of service, or possible service failure.

This test applies to all UE.

7.2.3.25.2 Conformance requirement

The receiver in any of following cases initiates this procedure … Detection of missing PUs is used and a missing PU is detected.

Reference

25.322 Clause 11.5.2.

7.2.3.25.3 Test purpose

1. To verify that a status report is transmitted if there are one or more missing PUs..

7.2.3.25.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

Test procedure

a) The SS transmits 7 SDUs, each of size 15 bytes, in PDUs with consecutive sequence numbers starting from 0, followed by 5 SDUs in PDUs with consecutive sequence numbers starting from 8, followed by an SDU in a PDU with a sequence number of 15.

b) While transmitting, the SS monitors the uplink for STATUS PDUs.

c) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SN = 0
2	←		…	SS continues to transmit RLC SDUs
3	←		DOWNLINK RLC PDU	SN = 6
4	←		DOWNLINK RLC PDU	SN = 8
5	→		STATUS PDU	
6	←		DOWNLINK RLC PDU	
7	←		…	SS continues to receive RLC PDUs
8	←		DOWNLINK RLC PDU	SN = 12
9	←		DOWNLINK RLC PDU	SN = 15
10	→		STATUS PDU	
11			RB RELEASE	Optional step

7.2.3.25.5 Test requirements

A STATUS PDU should be received from the UE after step 4, indicating that the PDU with sequence number 7 was missing.

A STATUS PDU should be received from the UE after step 9, indicating that the PDUs with sequence numbers 13 and 14 were missing.

7.2.3.26 Receiver Status Triggers / Operation of timer Timer_Status_Periodic

7.2.3.26.1 Definition

This case tests that the UE transmits a status report every Timer_Status_Periodic ms when this mode of operation is enabled. Incorrect operation of status reporting will cause degradation of service, or possible service failure.

This test applies to all UE.

7.2.3.26.2 Conformance requirement

This timer is only used when timer based status report sending is used. The timer is started when the RLC entity is created. Each time the timer expires a status report is transmitted and the timer is restarted. The value of the timer is signalled by RRC.

The receiver in any of following cases initiates this procedure … The timer based STATUS transfer is used and the timer Timer_Status_Periodic has expired.

Reference

25.322 Clauses 9.5, 9.7.2 and 11.5.2.

7.2.3.26.3 Test purpose

1. To verify that a status report is transmitted each time the Timer_Status_Periodic timer expires.

7.2.3.26.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Downlink RLC Timer_STATUS_periodic	 100

These settings apply to both the uplink and downlink DTCH.

Test procedure

Let T be the value of the Timer_STATUS_periodic timer.

a) The SS starts transmission of at least ceil(2 * T / TTI) SDUs of size 15 bytes.

b) The SS waits to receive a STATUS PDU and notes the time. This time will be recorded as T_1.

c) The SS waits to receive a second STATUS PDU and notes the time. This time will be recorded as T_2

d) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		…	SS continues to transmit RLC SDUs
3	←		DOWNLINK RLC PDU	SDU ceil(T/TTI)-1
4	→		STATUS PDU	Note T_1
5	←		DOWNLINK RLC PDU	
6	←		…	SS continues to receive RLC PDUs
7	←		DOWNLINK RLC PDU	SDU ceil(2T/TTI)-1
8	→		STATUS PDU	Note T_2
9			RB RELEASE	Optional step

7.2.3.26.5 Test requirements

The measured time $T_2 - T_1$ should be 100 ± 40 ms (TTI = 40ms).

7.2.3.27 Receiver Status Triggers / Operation of timer Timer_Status_Prohibit

7.2.3.27.1 Definition

This case tests that the UE transmits a status report every Timer_Status_Prohibit ms when this mode of operation is enabled. Incorrect operation of status reporting will cause degradation of service, or possible service failure.

This test applies to all UE.

7.2.3.27.2 Conformance requirement

If any of following conditions are fulfilled the sending of the status report shall be delayed, even if any of the conditions above are fulfilled:

1) STATUS prohibit is used and the timer Timer_Status_Prohibit is active.

   The status report shall be transmitted after the Timer_Status_Prohibit has expired. The receiver shall send only one status report, even if there are several triggers when the timer is running.

Reference

25.322 Clause 11.5.2.

7.2.3.27.3 Test purpose

1. To verify that a status report is not transmitted while the Timer_Status_Prohibit timer is active.
2. To verify that only one status report is sent on the expiry of the Timer_Status_Prohibit timer if several triggers occur while it is active.

7.2.3.27.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Downlink RLC	
Timer_Status_Prohibit	500
Timer_STATUS_periodic	200

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 15 bytes.

Test procedure

Let T_{pro} be the value of the Timer_Status_Prohibit timer, and T_{per} be the value of the Timer_Status_Periodic timer.

a) The SS starts transmission of at least ceil(2 * T_{pro} / TTI) + ceil(T_{per}/TTI) SDUs of size 15 bytes.

b) Whilst transmitting, the SS monitors the uplink for a STATUS PDU and notes the time. This time will be recorded as T_1.

c) The SS sets the P bit in a downlink PDU transmitted within the next floor(T_{pro}/TTI) PDUs.

d) The SS waits to receive a second STATUS PDU and notes the time. This time will be recorded as T_2

e) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		←	DOWNLINK RLC PDU	SDU 1
2		←	…	SS continues to transmit RLC SDUs
3		←	DOWNLINK RLC PDU	SDU ceil(T_{per}/TTI)
4		→	STATUS PDU	Note T_1
5		←	DOWNLINK RLC PDU	Poll
6		←	…	SS continues to receive RLC PDUs
7		←	DOWNLINK RLC PDU	SDU ceil(T_{pro} / TTI) + ceil(T_{per}/TTI)
8		→	STATUS PDU	Note T_2
9			RB RELEASE	Optional step

7.2.3.27.5 Test requirements

The measured time $T_2 - T_1$ should be 500 ± 40 ms (TTI = 40ms).

7.2.3.28 Status reporting / Abnormal conditions / Reception of LIST SUFI with Length set to zero

7.2.3.28.1 Definition

This tests the ability of the receiving AM RLC to handle a STATUS report PDU is received with an invalid LIST SUFI.

This test applies to all UE that support the LIST method of status reporting.

7.2.3.28.2 Conformance requirement

The LENGTH field of the LIST SUFI is defined as:

The number of (SN_i , L_i)-pairs in the super-field of type LIST. The value "0000" is invalid and the list is discarded.

Reference

25.322 Clause 9.2.2.11.4.

7.2.3.28.3 Test purpose

To verify that if a STATUS PDU is received with a LIST SUFI and the LENGTH field is set to “0000” that the list is discarded.

7.2.3.28.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC Polling info Poll_PU	 10

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 500 bytes.

Test procedure

a) The SS sends an SDU.

b) The SS monitors the received (looped back) PDUs for a poll request.

c) The SS responds to the poll request by transmitting a STATUS PDU with a LIST SUFI. The list contains an indication that two PDUs were not received, but has the length field set to “0000”.

d) The SS continues to monitor the received PDUs to verify that none are retransmitted.

e) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1 (start)
2	←		…	SS continues to transmit RLC PDUs
3	←		DOWNLINK RLC PDU	SDU 1 (end)
4	→		UPLINK RLC PDU	SDU 1 (start)
5	→		UPLINK RLC PDU	
6	→		…	SS continues to receive RLC PDUs
7	→		UPLINK RLC PDU	SN = Poll_PU - 1, Poll
3	←		STATUS PDU	LIST(LENGTH = “0000”, SN = 1, SN = 2)
8	→		…	SS continues to receive RLC PDUs
9	→		UPLINK RLC PDU	Poll
3	←		STATUS PDU	Normal reply
11	→		…	SS continues to receive RLC PDUs
12	→		UPLINK RLC PDU	SDU 1 (end)
13			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.28.5 Test requirements

No RLC PDUs should be retransmitted by the UE.

7.2.3.~~28~~29 Timer based discard, with explicit signalling / Expiry of Timer_Discard

7.2.3.~~28~~29.1 Definition

This case tests that when the transmission of an SDU exceeds a time limit, the SDU is discarded by the sender, and the discard is signalled to the receiver. SDU discard is used to keep network delays within limits, and incorrect operation will effect the quality of service.

7.2.3.~~28~~29.2 Conformance requirement

If the transmission time exceeds a predefined value for a SDU in acknowledged mode RLC, this SDU is discarded in the transmitter and a Move Receiving Window (MRW) command is sent to the receiver so that AMD PDUs carrying that SDU are discarded in the receiver and the receiver window is updated accordingly.

Upon expiry of Timer_Discard the sender shall initiate the SDU discard with explicit signalling procedure.

This status report is sent even if the 'STATUS prohibit' is used and the timer 'Timer_Status_Prohibit' is active.

The STATUS PDUs have higher priority than data PDUs.

~~The sender shall start timer Timer_MRW. If a new SDU discard procedure is triggered when Timer_MRW is running, no new MRW SUFIs should be sent before the STATUS PDU is received indicating the appropriate value of VR(R).~~

~~If Timer_MRW expires before a STATUS PDU is received indicating a value of VR(R) greater or equal to the MRW parameter then the STATUS(MRW) shall be retransmitted, VT(MRW) is incremented by one and Timer_MRW restarted. MRW SUFI should be exactly the same as previously transmitted even though some new SDUs would have been discarded during the running of the Timer_MRW.~~

~~If the number of retransmission of a MRW command (i.e. VT(MRW)) reaches MaxMRW, an error indication shall be passed to RRC and RESET procedure should be performed.~~

Reference

25.322 Clauses 9.7.3.1, 11.3.4.3.1 ~~11.6.2, 11.6.5~~ and 11.6.~~6.2~~.

7.2.3.~~28~~29.3 Test purpose

1. To verify that if the transmission time for an SDU exceeds Timer_Discard, the SDU is discarded in the transmitter and the MRW procedure is invoked.

2. To verify that the MRW procedure status report is sent even if the 'STATUS prohibit' is used and the timer 'Timer_Status_Prohibit' is active.

7.2.3.~~28~~29.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	
Transmission RLC discard	
Timer based with explicit signalling	
Timer_MRW	500
Timer_Discard	1
MaxMRW	~~1~~5
Polling info	
Timer_poll_periodic	100
Downlink RLC	
Timer_Status_Prohibit	1000
Timer_STATUS_periodic	100

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 55 bytes.

Test procedure

a) The SS sends at least 2 RLC SDUs of size 15 bytes.

b) Whilst transmitting, the SS notes the time that the first RLC PDU is received on the uplink. This time will be recorded as T_1.

c) The SS checks the RLC PDUs received on the uplink and responds to all poll requests with a STATUS PDU, negatively acknowledging the RLC PDU with sequence number 0, and positively acknowledging all other RLC PDUs received.

d) ~~After a delay of 0.6 seconds from transmitting the last RLC SDU, the~~The ~~-~~SS ~~sends a further~~continues sending 15 byte RLC SDU~~s of size 15 bytes~~with poll requests.

e) The SS monitors received STATUS PDUs for the presence of a MRW SUFI, noting the time it was received. This time will be recorded as T_2.

f) The SS responds to the MRW command with a correct MRW_ACK.

g~~f~~) The SS checks any RLC SDUs reassembled from the uplink.

h~~g~~) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		DOWNLINK RLC PDU	SDU 2
3	←		…	SS continues to send RLC PDUs
4	→		UPLINK RLC PDU	SDU 1
5	→		…	SS continues to receive RLC PDUs
6	→		UPLINK RLC PDU	Poll
7	←		STATUS PDU	NAK SN=0
8	←		DOWNLINK RLC PDU	Poll
~~8~~9	→		…	SS continues to receive RLC PDUs
~~9~~10	→		UPLINK RLC PDU	Poll
~~10~~11	←		STATUS PDU	NAK SN=0
~~11~~12	←		DOWNLINK RLC PDU	SDU 3
~~12~~13	→		…	SS continues to receive RLC PDUs
~~13~~14	→		STATUS PDU	MRW Command: Note T_2
15	←		STATUS PDU	MRW_ACK
~~14~~16			RB RELEASE	Optional step

7.2.3.~~28~~29.5 Test requirements

The measured time $T_2 - T_1$ should be 1000 ± 40 ms (TTI = 40ms). The STATUS PDU shall contain MRW SUFIs indicating that the first four PDUs should be discarded, and that the data indicated in the fifth PDU by the first LI should also be discarded.

7.2.3.30 Timer based discard, with explicit signalling / Obsolete MRW_ACK

7.2.3.30.1 Definition

This case tests the ability of the receiving AM RLC entity to handle obsolete information that can be received during a failure of the SDU discard procedure. SDU discard is used to keep network delays within limits, and incorrect operation will effect the quality of service.

7.2.3.30.2 Conformance requirement

If Timer_MRW expires before the discard procedure is terminated,the MRW SUFI shall be retransmitted, VT(MRW) is incremented by one and Timer_MRW restarted. MRW SUFI shall be exactly the same as previously transmitted even though some new SDUs would have been discarded during the running of the Timer_MRW.

The received MRW_ACK shall be discarded in the following cases.

…

2. If the SN_ACK field in the received MRW_ACK < SN_MRW_{LENGTH} in the transmitted MRW SUFI.

3. If the SN_ACK field in the received MRW_ACK is equal to the SN_MRW_{LENGTH} in the transmitted MRW SUFI and the N field in the received MRW_ACK field is not equal to the N_{LENGTH} field in the transmitted MRW SUFI.

Reference

25.322 Clauses 11.6.5 and 11.6.6.3.

7.2.3.30.3 Test purpose

1. To verify that the MRW SUFI is retransmitted if Timer_MRW expires before a valid MRW_ACK is received.
2. To verify that the MRW_ACK is discarded if the SN_ACK field < SN_MRW_{LENGTH}.
3. To verify that the MRW_ACK is discarded if the N field is not equal to N_{LENGTH} transmitted in the MRW SUFI.

7.2.3.30.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	
Transmission RLC discard	
Timer based with explicit signalling	
Timer_MRW	500
Timer_Discard	1
MaxMRW	5
Polling info	
Timer_poll_periodic	100
Downlink RLC	
Timer_Status_Prohibit	1000
Timer_STATUS_periodic	100

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 55 bytes.

Test procedure

a) The SS sends at least 2 RLC SDUs of size 15 bytes.

b) Whilst transmitting, the SS notes the time that the first RLC PDU is received on the uplink. This time will be recorded as T_1.

c) The SS checks the RLC PDUs received on the uplink and responds to all poll requests with a STATUS PDU, negatively acknowledging the RLC PDU with sequence number 0, and positively acknowledging all other RLC PDUs received.

d) The SS continues sending 15 byte RLC SDUs with poll requests.

e) The SS monitors received STATUS PDUs for the presence of a MRW SUFI, noting the time it was received. This time will be recorded as T_2.

f) The SS responds to the MRW command with an MRW_ACK with the SN_ACK field set to $SN\_MRW_{LENGTH} - 1$.

g) The SS monitors received STATUS PDUs for another MRW SUFI

h) The SS responds to the MRW command with an MRW_ACK with the SN_ACK field set to SN_MRW_{LENGTH}, and the N field set to N_{LENGTH} - 1.

i) The SS monitors received STATUS PDUs for another MRW SUFI

j) The SS responds to the MRW command with a correct MRW_ACK.

k) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		DOWNLINK RLC PDU	SDU 2
3	←		…	SS continues to send RLC PDUs
4	→		UPLINK RLC PDU	SDU 1
5	→		…	SS continues to receive RLC PDUs
6	→		UPLINK RLC PDU	Poll
7	←		STATUS PDU	NAK SN=0
8	←		DOWNLINK RLC PDU	Poll
9	→		…	SS continues to receive RLC PDUs
10	→		UPLINK RLC PDU	Poll
11	←		STATUS PDU	NAK SN=0
12	←		DOWNLINK RLC PDU	SDU 3
13	→		…	SS continues to receive RLC PDUs
14	→		STATUS PDU	MRW Command: Note T_2
15	←		STATUS PDU	MRW_ACK, $SN\_ACK = SN\_MRW_{LENGTH} - 1$
16	→		STATUS PDU	MRW Command
17	←		STATUS PDU	MRW_ACK, N field = N_{LENGTH} - 1
18	→		STATUS PDU	MRW Command
19	←		STATUS PDU	MRW_ACK
20			RB RELEASE	Optional step

7.2.3.30.5 Test requirements

The measured time $T_2 - T_1$ should be 1000 ± 40 ms (TTI = 40ms). The STATUS PDU shall contain MRW SUFIs indicating that the first four PDUs should be discarded, and that the data indicated in the fifth PDU by the first LI should also be discarded.

7.2.3.~~29~~31 Timer based discard, with explicit signalling / Failure of MRW procedure

7.2.3.~~29~~31.1 Definition

This case tests that if a failure occurs during the signalling of an SDU discard to the receiver, the retransmission protocol operates correctly. SDU discard is used to keep network delays within limits, and incorrect operation will effect the quality of service.

7.2.3.~~29~~31.2 Conformance requirement

~~If the transmission time exceeds a predefined value for a SDU in acknowledged mode RLC, this SDU is discarded in the transmitter and a Move Receiving Window (MRW) command is sent to the receiver so that AMD PDUs carrying that SDU are discarded in the receiver and the receiver window is updated accordingly.~~

~~This status report is sent even if the 'STATUS prohibit' is used and the timer 'Timer_Status_Prohibit' is active.~~

~~The STATUS PDUs have higher priority than data PDUs.~~

~~The sender shall start timer Timer_MRW. If a new SDU discard procedure is triggered when Timer_MRW is running, no new MRW SUFIs should be sent before the STATUS PDU is received indicating the appropriate value of VR(R).~~

~~If Timer_MRW expires before a STATUS PDU is received indicating a value of VR(R) greater or equal to the MRW parameter then the STATUS(MRW) shall be retransmitted, VT(MRW) is incremented by one and Timer_MRW restarted. MRW SUFI should be exactly the same as previously transmitted even though some new SDUs would have been discarded during the running of the Timer_MRW.~~

If the number of retransmission of a MRW command (i.e. VT(MRW)) reaches MaxMRW, an error indication shall be passed to RRC and RESET procedure shall be performed.~~If the number of retransmission of a MRW command (i.e. VT(MRW)) reaches MaxMRW, an error indication shall be passed to RRC and RESET procedure should be performed.~~

Reference

25.322 Clause~~s 9.7.3.1, 11.6.2, 11.6.5 and~~ 11.6.6.2.

7.2.3.~~29~~31.3 Test purpose

~~1. To verify that when Timer_MRW expires before a STATUS PDU is received indicating a value of VR(R) greater or equal to the MRW parameter then the STATUS(MRW) is retransmitted, VT(MRW) is incremented by one and Timer_MRW is restarted.~~

~~2. To verify that if a new SDU discard procedure is triggered when Timer_MRW is running, no new MRW SUFIs are sent before the STATUS PDU is received indicating the appropriate value of VR(R).~~

~~3~~1. To verify that when the number of retransmissions of a MRW command reaches MaxMRW, an error indication is passed to RRC and RESET procedure is initiated.

7.2.3.~~29~~31.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC	
Transmission RLC discard	
Timer based with explicit signalling	
Timer_MRW	500
Timer_Discard	0.5
MaxMRW	4
Polling info	
Poll_PU	2

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 31 bytes.

Test procedure

a) The SS sends 4 RLC SDUs of size 31 bytes.

b) The SS checks the RLC PDUs received on the uplink and responds to all poll requests as follows: While the VR(H) is 4 or less, with a STATUS PDU, negatively acknowledging the RLC PDU with sequence number 0, and positively acknowledging all other RLC PDUs received. While the VR(H) is greater than 4, a STATUS PDU negatively acknowledging RLC PDUs with sequence numbers 0 and 4, and positively acknowledging all others.

c) The SS monitors received STATUS PDUs for the presence of an MRW SUFI, noting the time it was received. This time will be recorded as T_1.

d) The SS makes no response, but monitors for the next STATUS PDU containing an MRW SUFI, noting the time it was received. This time will be recorded as T_2.

e) The SS sends a STATUS PDU ~~indicating~~ with an MRW ACK indicating the discard of SDU 1 moving VR(R) to 4.

f) The SS monitors for further STATUS PDUs containing an MRW SUFI, or for a RESET PDU. The SS records the number of STATUS PDUs it received with MRW SUFI before it received the RESET PDU.

g) The SS checks any RLC SDUs reassembled from the uplink.

h) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 2
4	←		…	SS continues to send RLC PDUs
5	←		DOWNLINK RLC PDU	SDU 4
6	→		UPLINK RLC PDU	SDU 1
7	→		…	SS continues to receive RLC PDUs
8	→		UPLINK RLC PDU	Poll
9	←		STATUS PDU	NAK SN=0
10	→		…	SS continues to receive RLC PDUs
11	→		UPLINK RLC PDU	Poll
12	←		STATUS PDU	NAK SN=0, 4
13	→		…	SS continues to receive RLC PDUs
14	→		STATUS PDU	MRW Command: Note T_1
15	→		STATUS PDU	MRW Command: Note T_2
16	←		STATUS PDU	MRW_ACK indicating VR(R) = 4
17	→		STATUS PDU	MRW Command, discard SDU 3
18	→		STATUS PDU	MRW Command
19	→		STATUS PDU	MRW Command
20	→		STATUS PDU	MRW Command
21	→		RESET PDU	
22			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.~~29~~31.5 Test requirements

The measured time $T_2 - T_1$ should be 500 ± 40 ms (TTI = 40ms).

After step 16, the SS should detect 4 repeats of the MRW command before a RESET PDU is sent.

7.2.3.~~30~~32 SDU discard after MaxDAT number of retransmissions

7.2.3.~~30~~32.1 Definition

This case tests that if a PDU is unsuccessfully transmitted MaxDAT times, the SDU it carries, and therefore all other associated PDUs, are discarded by the transmitter and receiver. This mode of SDU discard is used to minimize data loss, and incorrect operation will effect the quality of service.

7.2.3.~~30~~32.2 Conformance requirement

There is one VT(DAT) for each PU and it is incremented each time the PU is transmitted. The initial value of this variable is 0.

If SDU discard after MaxDAT number of retransmission is used and VT(DAT) > MaxDAT for any PU the sender shall initiate the SDU discard with explicit signalling procedure for the SDUs to which the PU with VT(DAT)>MaxDAT belongs.~~It is the maximum value for the number of retransmissions of a PU. This parameter is an upper limit of counter VT(DAT). When the value of VT(DAT) comes to MaxDAT, error recovery procedure will be performed.~~

~~If SDU discard after MaxDAT number of retransmission is used and VT(DAT) > MaxDAT for any PU the sender shall initiate the SDU discard with explicit signalling procedure.~~

Reference

25.322 Clauses 9.4~~, 9.6~~ and 11.3.4.4.

7.2.3.~~30~~32.3 Test purpose

1. To verify that if VT(DAT) > MaxDAT for any PU the sender initiates the SDU discard with explicit signalling procedure.

7.2.3.~~30~~32.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 31 bytes.

Test procedure

a) The SS sends 2 RLC SDUs of size 31 bytes.

b) The SS checks the RLC PDUs received on the uplink and responds to all poll requests with a STATUS PDU negatively acknowledging the RLC PDU with sequence number 0, and positively acknowledging all other RLC PDUs received.

c) The SS monitors received STATUS PDUs for the presence of an MRW SUFI.

d) The SS responds with a STATUS PDU containing a valid MRW_ACK SUFI.

~~d~~e) The SS checks any RLC SDUs reassembled from the uplink.

~~e~~f) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		DOWNLINK RLC PDU	SDU 1
2	←		DOWNLINK RLC PDU	SDU 1
3	←		DOWNLINK RLC PDU	SDU 2
4	←		DOWNLINK RLC PDU	SDU 2
5	→		UPLINK RLC PDU	SDU 1
6	→		…	SS continues to receive RLC PDUs
7	→		UPLINK RLC PDU	SDU 2, Poll
8	←		STATUS PDU	NAK SN=0
9	→		UPLINK RLC PDU	Retransmit SN=0, Poll
10	←		STATUS PDU	NAK SN=0
11	→		UPLINK RLC PDU	Retransmit SN=0, Poll
12	←		STATUS PDU	NAK SN=0
13	→		UPLINK RLC PDU	Retransmit SN=0, Poll
14	←		STATUS PDU	NAK SN=0
15	→		UPLINK RLC PDU	Retransmit SN=0, Poll
16	←		STATUS PDU	NAK SN=0
17	→		STATUS PDU	MRW Command
18	←		STATUS PDU	MRW ACK
~~18~~19			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.~~30~~32.5 Test requirements

The uplink RLC PDU with sequence number 0 shall be retransmitted four times, then the SS shall detect a STATUS PDU with an MRW command.

7.2.3.~~31~~33 Operation of the RLC Reset procedure / UE Originated

7.2.3.~~31~~33.1 Definition

This case tests that when an unrecoverable protocol error occurs the UE will initiate and perform the RLC Reset procedure. Incorrect operation of this procedure may cause loss of service.

7.2.3.~~31~~33.2 Conformance requirement

The procedure shall be initiated when a protocol error occurs.

The sender sends the RESET PDU when it is in data transfer ready state and enters reset pending state. The sender shall start the timer Timer_RST and increase VT(RST) with 1.

The RSN field shall indicate the sequence number of the RESET PDU. This sequence number is incremented every time a new RESET PDU is transmitted.

Upon reception of a RESET PDU the receiver shall respond with a RESET ACK PDU. The receiver resets the state variables to their initial value and resets configurable parameters to their configured value. The RSN field shall always be set to the same value as in the corresponding RESET PDU.

Upon reception of a RESET ACK the Timer_RST shall be stopped. The sender resets the state variables to their initial value and resets configurable parameters to their configured value. The sender shall enter data transfer ready state.

Upon expiry of Timer_RST the sender shall retransmit the RESET PDU and increase VT(RST) with 1.

If VT(RST) becomes larger or equal to MaxRST the RRC layer shall be informed.

Reference

25.322 Clause 11.4.

7.2.3.~~31~~33.3 Test purpose

1. To verify that the Reset procedure is initiated when a protocol error occurs.
2. To verify that the sender resets state variables to their initial value and resets configurable parameters to their configured value.

7.2.3.~~31~~33.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC Transmission RLC discard No discard	

These settings apply to both the uplink and downlink DTCH.

The Radio Bearer is placed in loop-back mode 1 with the UL SDU size set to 31 bytes.

Test procedure

a) The SS sends 2 RLC SDUs of size 31 bytes.

b) The SS checks the RLC PDUs received on the uplink and responds to all poll requests with a STATUS PDU negatively acknowledging the RLC PDU with sequence number 0, and positively acknowledging all other RLC PDUs received.

c) The SS notes the time that the RESET PDU is received. This time will be recorded as T_1. The SS notes the value of the RSN bit.

d) The SS makes no response, and notes the time that the next RESET PDU is received. This time will be recorded as T_2. The SS notes the value of the RSN bit.

e) The SS sends a RESET ACK PDU with the RSN bit set to the same value as received in the RESET PDU.

f) The SS sends an RLC SDU of size 31 bytes.

g) The SS checks the RLC PDUs received on the uplink and responds to all poll requests with a STATUS PDU negatively acknowledging the RLC PDU with sequence number 0, and positively acknowledging all other RLC PDUs received.

~~g) The SS responds normally to poll requests~~

h) The SS notes the value of the RSN bit of the RESET PDU received

i) The SS sends a RESET ACK PDU with the RSN bit set to the value received in the RESET PDU in step c (the incorrect value).

j) The SS waits to receive another RESET PDU and checks the RSN bit.

k) The SS sends a RESET ACK PDU with the correct RSN bit.

~~k~~l) The SS checks any RLC SDU received on the uplink.

~~j~~m)The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		←	DOWNLINK RLC PDU	SDU 1
2		←	DOWNLINK RLC PDU	SDU 1
3		←	DOWNLINK RLC PDU	SDU 2
4		←	DOWNLINK RLC PDU	SDU 2
5		→	UPLINK RLC PDU	SDU 1
6		→	…	SS continues to receive RLC PDUs
7		→	UPLINK RLC PDU	SDU 2, Poll
8		←	STATUS PDU	NAK SN=0
9		→	UPLINK RLC PDU	Retransmit SN=0, Poll
10		←	STATUS PDU	NAK SN=0
11		→	UPLINK RLC PDU	Retransmit SN=0, Poll
12		←	STATUS PDU	NAK SN=0
13		→	UPLINK RLC PDU	Retransmit SN=0, Poll
14		←	STATUS PDU	NAK SN=0
15		→	UPLINK RLC PDU	Retransmit SN=0, Poll
16		←	STATUS PDU	NAK SN=0
17		→	RESET PDU	Note T_1
18		→	RESET PDU	Note T_2, check RSN
19		←	RESET ACK PDU	
20		←	DOWNLINK RLC PDU	SDU 3
21		←	DOWNLINK RLC PDU	SDU 3
22		→	UPLINK RLC PDU	SDU 3, SN=0
23		→	UPLINK RLC PDU	SDU 3
24		→	UPLINK RLC PDU	SDU 3, Poll
25		←	STATUS PDU	NAK SN=0
26		→	UPLINK RLC PDU	Retransmit SN=0, Poll
27		←	STATUS PDU	NAK SN=0
28		→	UPLINK RLC PDU	Retransmit SN=0, Poll
29		←	STATUS PDU	NAK SN=0
30		→	UPLINK RLC PDU	Retransmit SN=0, Poll
31		←	STATUS PDU	NAK SN=0
32		→	UPLINK RLC PDU	Retransmit SN=0, Poll
33		←	STATUS PDU	NAK SN=0
34		→	RESET PDU	Check RSN
35		←	RESET ACK PDU	RSN = 0
34		→	RESET PDU	Check RSN
35		←	RESET ACK PDU	RSN = 1
36~~24~~			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.~~31~~33.5 Test requirements

The measured time $T_2 - T_1$ should be 500 ± 40 ms (TTI = 40ms).

The SS shall receive an RLC SDU with contents that match the third RLC SDU sent to the UE. The first RLC PDU containing that SDU shall have sequence number 0.

The RSN bit of the first and second RESET PDUs received should be set to 0. The RSN bit of the third and fourth RESET PDU should be set to 1.

7.2.3.~~32~~34 Operation of the RLC Reset procedure / UE Terminated

7.2.3.~~32~~34.1 Definition

This case tests that when an unrecoverable protocol error occurs the UE will initiate and perform the RLC Reset procedure. Incorrect operation of this procedure may cause loss of service.

7.2.3.~~32~~34.2 Conformance requirement

The procedure shall be initiated when a protocol error occurs.

The sender sends the RESET PDU when it is in data transfer ready state and enters reset pending state. The sender shall start the timer Timer_RST and increase VT(RST) with 1.

Upon reception of a RESET PDU the receiver shall respond with a RESET ACK PDU. The receiver resets the state variables to their initial value and resets configurable parameters to their configured value.

Upon reception of a RESET ACK the Timer_RST shall be stopped. The sender resets the state variables to their initial value and resets configurable parameters to their configured value. The sender shall enter data transfer ready state.

Upon expiry of Timer_RST the sender shall retransmit the RESET PDU and increase VT(RST) with 1.

If VT(RST) becomes larger or equal to MaxRST the RRC layer shall be informed.

Reference

25.322 Clause 11.4.

7.2.3.~~32~~34.3 Test purpose

1. To verify that upon reception of a RESET PDU the receiver responds with a RESET ACK PDU.
2. To verify that the receiver resets its state variables to their initial value and resets configurable parameters to their configured value.

7.2.3.~~32~~34.4 Method of test

Initial conditions

The generic procedure for Radio Bearer establishment (Clause 7.1.3 of TS34.108) is executed, with all the parameters as specified in the procedure, with the exception that the default Radio Access Bearer is replaced with the RAB defined for AM 7-bit length indicator tests in Clause 7.2.3.1.

The following RLC parameter values are used in place of the values in Clause 7.2.3.1:

Uplink RLC Transmission RLC discard No discard	

These settings apply to both the uplink and downlink DTCH.

Test procedure

a) The SS sends 2 RLC SDUs of size 31 bytes.

b) The SS checks the STATUS PDUs received on the uplink until both SDUs have been acknowledged.

c) The SS transmits a RESET PDU, and notes the time that it is transmitted. This time will be recorded as T_1.

d) The SS monitors the uplink for a RESET ACK PDU and notes the time that it is received. This time will be recorded as T_2.

e) The SS sends an RLC SDU of size 31 bytes.

f) The SS checks for STATUS PDUs received on the uplink until the SDU has been acknowledged.

g) The SS may optionally release the radio bearer

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		←	DOWNLINK RLC PDU	SDU 1
2		←	DOWNLINK RLC PDU	SDU 1
3		←	DOWNLINK RLC PDU	SDU 2
4		←	DOWNLINK RLC PDU	SDU 2
5		→	STATUS PDU	ACK SN=0, 1, 2 and 3
6		←	RESET PDU	Note T_1
7		→	RESET ACK PDU	Note T_2
8		←	DOWNLINK RLC PDU	SDU 3
9		←	DOWNLINK RLC PDU	SDU 3
10		→	STATUS PDU	ACK SN=0 and 1
11			RB RELEASE	Optional step

The UPLINK and DOWNLINK PDU flows may overlap, but are shown separate for clarity.

7.2.3.~~32~~34.5 Test requirements

The SS shall receive a RESET ACK PDU in step 7. The measured time $T_2 - T_1$ shall be 500 ± 40 ms (TTI = 40ms).

The SS shall receive acknowledgements for the third RLC SDU transmitted.

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000
3GPP TSG-T WG1/SIG-SWG Meeting #14
Redondo Beach, USA, 13th-15th November 2000

Document T1-000308
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

Tdoc T1S-000268r1

CR-Form-v3

CHANGE REQUEST

⌘ **34.123-1** **CR** **045** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Modification to the "Authentication rejected by the UE" test case
Source:	⌘	SONY
Work item code:	⌘	***Date:*** ⌘ 2000/11/13
Category:	⌘	**F** ***Release:*** ⌘ R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	It is necessary to modify the test case in "Authentication rejected by the UE" in order to keep consistency with the change of the core specifications.
Summary of change:	⌘	(1) Modification of sub-clause12.6.1.3.1.4 "Method of test" (2) Modification of sub-clause 12.6.1.3.1.5 "Test requirements"
Consequences if not approved:	⌘	Inconsistencies with the core specification are left.

Clauses affected:	⌘	12.6.1.3
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

12.6.1.3 Authentication rejected by the UE

12.6.1.3.1 GMM cause ‘MAC failure’

12.6.1.3.1.1 Definition

12.6.1.3.1.2 Conformance requirement

If the UE considers the MAC code (supplied by the core network in the AUTN parameter) to be invalid, the UE shall send AUTHENTICATION AND CIPHERING FAILURE message with the reject cause 'MAC failure' to the System Simulator.

Reference

3G TS 24.008 clause 4.7.7

12.6.1.3.1.3 Test purpose

To test the behaviors of the UE, when the UE considers the MAC code (supplied by the core network in the AUTN parameter) to be invalid.

12.6.1.3.1.4 Method of test

Initial condition

System Simulator:

Two cells (not simultaneously activated), cell A in MCC1/MNC1/LAC1/RAC1, cell B in MCC1/MNC1/LAC1/RAC2.
Both cells are operating in network operation mode II.

The MAC (Message Authentication Code) code, which is included in AUTHENTICATION AND CIPHERING REQUEST, is invalid value.

User Equipment:

The UE has a valid IMSI.

Related ICS/IXIT statements

Support of PS service	Yes/No
UE operation mode A	Yes/No
UE operation mode C	Yes/No
Switch off on button	Yes/No
Automatic PS attach procedure at switch on or power on	Yes/No

Test procedure

A PS attach is performed, and the SS initiates an authentication and ciphering procedure.

The UE sends AUTHENTICATION AND CIPHERING FAILURE message with reject cause ‘MAC failure’ to the SS and starts timer T3214.

The SS initiates an identification procedure, upon receipt of a failure message with reject cause ‘MAC failure’.

After the identification procedure is complete, the SS re-initiates an authentication and ciphering procedure.

T3360; set to 6 seconds.

T3318; set to 5 seconds.

~~T3319; set to 15 seconds.~~

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell A.
1		SS		The SS activates cell A.
2	UE			The UE is set in UE operation mode C (see ICS). If UE operation mode C is not supported, goto step 25.
3	UE			
4				The following messages are sent and shall be received on cell A.
5	UE			The UE is powered up or switched on and initiates an attach (see ICS).
6	->		ATTACH REQUEST	Attach type = 'PS attach' Mobility identity = IMSI
7	<-		AUTHENTICATION AND CIPHERING REQUEST	Request authentication. Invalid Message Authentication Code (MAC).
8		SS		The SS starts the timer T3360
9	->		AUTHENTICATION AND CIPHERING FAILURE	GMM cause='MAC failure'
10	<-		IDENTITY REQUEST	Identity type = IMSI
11	->		IDENTITY RESPONSE	Mobile identity = IMSI
12		SS		The SS checks that the P-TMSI originally used in the authentication challenge corresponded to the correct IMSI.
13	<-		AUTHENTICATION AND CIPHERING REQUEST	Request authentication.
14	->		AUTHENTICATION AND CIPHERING RESPONSE	RES
15		SS		The SS checks the RES value.
16	<-		ATTACH ACCEPT	Attach result = 'PS only attached' Mobile identity = P-TMSI-2 P-TMSI-2 signature Routing area identity = RAI-1
17	->		ATTACH COMPLETE	
				The following messages are sent and shall be received on cell B.
18		SS		Activate cell B with a lower signal strength than cell A. RF level of cell A is lowered until cell B is preferred by the UE.
19	->		ROUTING AREA UPDATING REQUEST	Update type = 'RA updating' P-TMSI-2 signature Routing area identity = RAI-1 PS-CKSN-1
20		SS		The value of PS-CKSN is checked
21	<-		ROUTING AREA UPDATING ACCEPT	Update result = 'RA updated' Mobile identity = P-TMSI-1 P-TMSI-1 signature Routing area identity = RAI-2
22	->		ROUTING AREA UPDATING COMPLETE	
23	UE			The UE is switched off or power is removed (see ICS).
24	->		DETACH REQUEST	Message is not sent if power is removed. Detach type = 'power switched off, PS detach'
25	UE			The UE is set in UE operation mode A (see ICS) and the test is repeated from step 1 to step 24.

12.6.1.3.1.5 Test requirements

UE shall:

- initiate a PS attach procedure with information element specified in the above Expected Sequence when UE is powered on or switched on.
- send an AUTHENTICATION AND CIPHERING FAILURE message with GMM cause 'MAC failure' to the SS
- start timer T3318.

After UE receives the IDENTITY REQUEST message from SS, UE shall:

- ~~stop timer T3318, if running.~~
- send the IDENTITY RESPONSE message to SS
- ~~start the timer T3319.~~

After UE receives the second AUTHENTICATION AND CIPHERING REQUEST message (containing a valid MAC) from SS, UE shall:

- stop timer T3318, if running
- send the AUTHENTICATION AND CIPHERING RESPONSE message to SS
- ~~resume any retransmission timers (i.e. T3310, T3321, T3330 or T3317), if they are not already running.~~

3GPP TSG T1 Meeting #9 ***Document T1-000309***

Redondo Beach, Ca, USA, 16-17 November 2000

e.g. for 3GPP use the format TP-99xxx

or for SMG, use the format P-99-xxx

3GPP TSG- T1/SIG SWG Meeting #14 ***TSG T1S-000269r1***
Redondo Beach, USA, 13-15 Nov 2000

CR-Form-v3

CHANGE REQUEST

⌘ **34.123-1** **CR** **046** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Update to 16. SMS test specification
Source:	⌘	DENSO CORPORATION
Work item code:	⌘	***Date:*** ⌘ 2000-11-13
Category:	⌘	**F** ***Release:*** ⌘ R99

Use one of the following categories:
- ***F*** *(essential correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(Addition of feature),*
- ***C*** *(Functional modification of feature)*
- ***D*** *(Editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	It is necessary to modify the lengths of RP-User data in order to keep consistency with the change of the core specifications (2000-9). In addition, there is some inconsistency in the IE format.
Summary of change:	⌘	This CR proposes reduction of the lengths of RP-User data, addition of subclase, correction of the IE format, and editorial modifications.
Consequences if not approved:	⌘	

Clauses affected:	⌘	16.1, 16.2, 16.3, 16.4
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

16 Short message service (SMS)

Ref.: TS 23.040, TS 24.011 (point to point)
TS 23.041, (cell broadcast)

General

The purpose of these tests is to verify that the UE can handle UMTS system functions when submitting or receiving Short Messages (SM) between UE and a short message service centre as described in TS 23.040.

The procedures are based upon services provided by the Mobility Management (MM) sublayer and GPRS Mobility Managemant(GMM) sublayer which are not tested in this case.

The SMS comprises three basic services; SMS point to point services on CS mode, on PS mode and SMS cell broadcast service. The SMS point to point services on CS mode shall work in an active UE at any time independent of whether or not there is a speech or data call in progress. The SMS point to point services on PS mode shall work in an active UE at any time independent of whether or not there is a PDP context in progress. The SMS cell broadcast service only works when the UE is in idle mode.

Since the timer TC1M currently is not standardized, the value of TC1M shall be declared by the manufacturer (to be used in subclauses 16.1.1 and 16.1.2).

The manufacturer shall declare whether SMS messages are stored in the USIM and/or the ME. This shall be referred to as the SMS message store in the following tests.

Unless otherwise stated default message contents from 3GPP TS 34.108 applies for following tests.

16.1 Short message service point to point on CS mode

All of test cases in this subclause are applied to UE supporting CS mode.

16.1.1 SMS mobile terminated

16.1.1.1 Definition

16.1.1.~~1~~2 Conformance requirements

An active UE shall be able to receive short message TPDU (SMS-DELIVER) at any time, independently of whether or not there is a speech or data call in progress. A report will always be returned to the SC, confirming that the UE has received the short message.

Reference

TS 23.040, subclause 3.1.

16.1.1.~~2~~3 Test purpose

To verify the ability of a UE to receive and decode the SMS where provided for the point to point service.

16.1.1.~~3~~4 Method of test

Initial Conditions

- System simulator:

- 1 cell, default parameters.

- User Equipment:
  - the UE shall be in "Idle, updated" state;
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Support for call control state U10.

Test procedure

a) ~~SS initiates the establishment of RRC Connection~~ Mobile terminates establishment of Radio Resource Connection. After the completion of RRC Connection SS authenticates UE.

   After the SS receives SECURITY MODE COMPLETE, the SS sends a CP-DATA message. The information element of the CP-DATA message will be RP-DATA RPDU (SMS DELIVER TPDU).

b) The SS waits a maximum of 25 seconds for the CP-ACK message and then a maximum of 60 seconds for the CP-DATA message containing the RP-ACK RPDU.

c) The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates RRC Connection release.

d) Steps a), b) and c) are repeated but the first CP-DATA message from the UE is not acknowledged. The second CP-DATA message from the UE is acknowledged by a CP-ACK within a time TC1M.

e) Steps a) and b) are repeated. The SS is configured not to send CP-ACK. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 seconds after the last CP-DATA retransmission the SS then initiates the channel release. The 5 seconds is the appropriate time to wait to verify that the UE does not send more than the maximum allowed (3) CP-DATA retransmissions.

f) The SMS message store shall be cleared manually by the operator.

g) A data or speech call is established on a DTCH with the SS and the state U10 of call control is entered. The SS sends a PAGING TYPE 2.

   The SS sends a CP-DATA message. The information element of the CP-DATA message will be RP-DATA RPDU (SMS DELIVER TPDU). The SS waits a maximum of 25 seconds for the CP-ACK message and then a maximum of 60 seconds for the CP-DATA message containing the RP-ACK RPDU.

h) The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates RRC Connection release. The SMS message store shall be cleared manually by the operator.

i) Steps g) and h) are repeated but the first CP-DATA message from the UE is not acknowledged. The second CP-DATA message from the UE is acknowledged by a CP-ACK within a time TC1M.

j) Step g) is repeated. The SS is configured not to send CP-ACK. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 seconds after the last CP-DATA retransmission the SS initiates the channel release. The 15 seconds is the appropriate time to wait to verify that the UE does not send more than the maximum allowed (3) CP-DATA retransmissions (during a call in progress).

k) A data or speech call is established on a DTCH with the SS and the state U10 of call control shall be entered. DTCHThe speech call is cleared by the SS with a disconnect message. (The call clearing is continued on the DCCH in parallel to the following exchange of messages related to SMS).

The SS sends a CP-DATA RPDU (SMS DELIVER TPDU) message. The information element of the CP-DATA message is RP-DATA.

The SS waits a maximum of 25 seconds for the CP-ACK message and then a maximum of 60 seconds for the CP-DATA message containing the RP-ACK RPDU.

The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release.

The SMS message store shall be cleared manually by the operator.

l) A data or speech call is established with the SS and the state U10 of call control is entered. After the SS sends a PAGING TYPE 2,the speech call shall be cleared from the UE. (The call clearing is continued in parallel to the following exchange of messages related to SMS).

The SS sends a CP-DATA message. The information element of the CP-DATA message is RP-DATA RPDU (SMS DELIVER TPDU).

The SS waits a maximum of 25 seconds for the CP-ACK message and then a maximum of 60 seconds for the CP-DATA message containing the RP-ACK RPDU.

The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates RRC Connection release.

The SMS message store shall be cleared manually by the operator.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connectionMobile terminated establishment of RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
8	SS			Waits max 25 seconds for CP-ACK
9	-->		CP-ACK	
10	SS			Waits max 60 seconds for RP-ACK RPDU
11	-->		CP-DATA	Contains RP-ACK RPDU
12	<--		CP-ACK	
13	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection .
14	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
15			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108

Step	Direction		Message	Comments
	UE	SS		
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
22		SS		Waits max 25 seconds for CP-ACK
23	-->		CP-ACK	
24		SS		Waits max 60 seconds for RP-ACK RPDU
25	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
26		SS		First CP-DATA message not acknowledged by SS
27	-->		CP-DATA	Retransmitted CP-DATA from UE within twice TC1M, after step 25, contains RP-ACK RPDU
28	<--		CP-ACK	Second CP_DATA message is acknowledged
29	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection.
30	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
31			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
32	-->		PAGING RESPONSE	
33	<--		AUTHENTICATION REQUEST	
34	-->		AUTHENTICATION RESPONSE	
35	<--		SECURITY MODE COMMAND	
36	-->		SECURITY MODE COMPLETE	
37	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
38		SS		Waits max 25 seconds for CP-ACK
39	-->		CP-ACK	
40		SS		Waits max 60 seconds for RP-ACK RPDU
41	-->		CP-DATA	Contains RP-ACK RPDU
42		SS		First CP-DATA message not acknowledged by SS
43			CP-DATA	Retransmitted CP-DATA from UE within twice TC1M after step 41, contains RP-ACK RPDU
44		SS		Retransmitted CP-DATA message not acknowledged by SS
45	UE			Depending upon the maximum number of CP-DATA retransmissions implemented, step 43 and 44 may be repeated.
46	<--		RRC CONNECTION RELEASE	RRC connecton is released after a duration of TC1M + 5 seconds after the last CP-DATA retransmission..
47	-->		RRC CONNECTION RELEASE COMPLETE	
48	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
49	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
50			PAGING TYPE 2	
51	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
52		SS		Waits max 25 seconds for CP-ACK
53	-->		CP-ACK	
54		SS		Waits max 60 seconds for RP-ACK RPDU
55	-->		CP-DATA	Contains RP-ACK RPDU
56	<--		CP-ACK	
57	<--		DISCONNECT	Disconnect the active call

Step	Direction		Message	Comments
	UE	SS		
58	-->		RELEASE	
59	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
60	UE			Clear the SMS message store
61	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
62	<--		PAGING TYPE 2	
63	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
64	SS			Waits max 25 seconds for CP-ACK
65	-->		CP-ACK	
66	SS			Waits max 60 seconds for RP-ACK RPDU
67	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
68	SS			First CP-DATA message not acknowledged by SS
69	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 67, contains RP-ACK RPDU
70	<--		CP-ACK	Second CP-DATA message is acknowledged
71	<--		DISCONNECT	Disconnect the active call
72	-->		RELEASE	
74	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection
75	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
76	UE			Clear the SMS message store
77	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
78	<--		PAGING TYPE 2	
	-->			
79	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
80	SS			Waits max 25 seconds for CP-ACK
81	-->		CP-ACK	
82	SS			Waits max 60 seconds for RP-ACK RPDU
83	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
84	SS			First CP-DATA message not acknowledged by SS
85	-->		CP-DATA	Transmitted CP-DATA message within twice TC1M after step 83, contains RP-ACK RPDU
86	SS			Retransmitted CP-DATA message not acknowledged by SS
87	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 85-86 may be repeated. The maximum number of retransmissions may however not exceed three.
88	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1M + 15 seconds after the last CP-DATA retransmission.
89	-->		RRC CONNECTION RELEASE COMPLETE	
90	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
91	UE			Clear the SMS message store
92	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
93	<--		PAGING TYPE 2	Sent on DCCH associated with the DTCH
94	<--		DISCONNECT	The speech call is cleared by the SS. The call clearing is continued in parallel to the following exchange of messages related to SMS.
95	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
96	SS			Waits max 25 seconds for CP-ACK
97	-->		CP-ACK	
98	SS			Waits max 60 seconds for RP-ACK RPDU
99	-->		CP-DATA	Contains RP-ACK RPDU
100	<--		CP-ACK	

Step	Direction		Message	Comments
	UE	SS		
101	UE			There should be no further CP-DATA messages until the UE aborts the RR connection.
102	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
103	UE			Clear the SMS message store
104	SS			A data or speech call is established on a DTCH and the state U10 of call control is entered.
105	<--		PAGING TYPE 2	
106	-->		DISCONNECT	The speech call is cleared from the UE. The call clearing is continued in parallel to the following exchange of messages related to SMS.
107	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
108	<--		RELEASE	This message is likely to be sent before all of the CP-DATA message has been sent on the DCCH.
109	-->		RELEASE COMPLETE	
110	-->		CP-ACK	shall be sent before 25 seconds after the start of step 107
111	SS			Waits max 60 seconds for RP-ACK RPDU
112	-->		CP-DATA	Contains RP-ACK RPDU
113	<--		CP-ACK	
114	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection.
115	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
116	UE			Clear the SMS message store

NOTE: Time values for SS wait time are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.

Specific Message Contents

SMS DELIVER TPDU

Information element	CommentValue
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)

NOTE: The 160 characters in TP-UD shall include at least one occurrence of each character in the default alphabet (see TS 23.038, subclause 6.2.1).

16.1.1.~~4~~5 Test requirements

After step 7 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 seconds and CP-DATA containing RP-ACK within 60 seconds.

After step 25 UE shall retransmit CP-DATA containing RP-ACK within twice TC1M.

After step 30 UE shall indicate that an SM has arrived.

After step 43 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 48 UE shall indicate that an SM has arrived.

After step 51 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 seconds and CP-DATA containing RP-ACK within 60 seconds.

After step 67 UE shall retransmit CP-DATA containing RP-ACK within twice TC1M.

After step 74 UE shall indicate that an SM has arrived.

After step 79 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 90 UE shall indicate that an SM has arrived.

After step 95 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 seconds and CP-DATA containing RP-ACK within 60 seconds.

After step 107 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 seconds and CP-DATA containing RP-ACK within 60 seconds.

16.1.2 SMS mobile originated

16.1.2.1 Definition

16.1.2.~~1~~2 Conformance requirements

An active UE shall be able to submit short message TPDU (SMS-SUBMIT) at any time, independently of whether or not there is a speech or data call in progress.

Reference

TS 23.040, subclause 3.1.

16.1.2.~~2~~3 Test purpose

To verify that the UE is able to correctly send a short message where the SMS is provided for the point to point service. The test also verifies that the UE is capable of simultaneously receiving a network originated SM whilst sending a mobile originated SM.

16.1.2.~~3~~4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in "Idle, updated" state;
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MO/PP.

Description of the basic procedures to display a mobile originated short message.

Support for state U10 of call control.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Maximum length (characters) of a mobile originated short message.

Test procedure

a) The UE shall be set up to send a SM to the SS. The SS responds to RRC CONNECTION REQUEST by allocating aCCCH. The SS recievesRRC CONNECTION SETUP COMPLETE on DCCH and then performs the authentication.

b) After receiving SECURITY MODE COMMAND UE shall send SECURITY COMMAND COMPLETE.

c) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 seconds for the CP-ACK message.

d) The SS sends a channel release message to the UE.

e) Steps a) and b) are repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 seconds after the last CP-DATA retransmission the SS initiates channel release. The 5 seconds is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions.

f) Steps a) and b) are repeated. On receipt of the CP-DATA from the UE the SS sends a CP-ERROR message within TC1M containing a "Network Failure" cause. Then the SS initiates channel release.

g) A data or speech call is established with the SS and the state U10 of call control is entered. The UE is setup to send an SM to the SS. After the reception of the CM SERVICE REQUEST, the SS sends a CM SERVICE ACCEPT message. h) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 seconds for the CP-ACK message. Then the SS sends a channel release message to the UE.

i) Step g) is repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 seconds after the last CP-DATA retransmission the SS initiates channel release. The 15 seconds is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions (during a call in progress).

j) The SS is configured to receive a mobile originated SM. Steps a) and b) are repeated and, using the end of the CP-DATA message from the UE as a trigger, the SS sends a SM to the UE. In this case a new transaction identifier shall be used in the CP messages of SMS mobile terminated.

k) The UE is set up to send an SM to the SS. On receipt of the CM SERVICE REQUEST the SS sends a CM SERVICE REJECT message with the reject cause set to "Service Option not supported" or "Service Option temporarily out of order". After 5 seconds the SS initiates channel release.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION	BCCH
2	-->		RRC CONNECTION REQUEST	CCCH
3	<--		RRC CONNECTION SETUP	CCCH
4	-->		RRC CONNECTION SETUP COMPLETE	DCCH
5	-->		CM SERVICE REQUEST	
6	<--		AUTHENTICATION REQUEST	
7	-->		AUTHENTICATION RESPONSE	
8	<--		SECURITY MODE COMMAND	
9	-->		SECURITY MODE COMPLETE	
10	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11	<--		CP-ACK	Sent within TC1M after step 10
12	<--		CP-DATA	Contains RP-ACK RPDU
13		SS		Waits max 25 seconds for CP-ACK
14	-->		CP-ACK	
15	<--		RRC CONNECTION RELEASE	RRC connection is released.
16	-->		RRC CONNECTION RELEASE COMPLETE	
17	<--		SYSTEM INFORMATION	BCCH
18	-->		RRC CONNECTION REQUEST	CCCH
19	<--		RRC CONNECTION SETUP	CCCH
20	-->		RRC CONNECTION SETUP COMPLETE	DCCH
21				
22	-->		CM SERVICE REQUEST	
23	<--		AUTHENTICATION REQUEST	
24	-->		AUTHENTICATION RESPONSE	
25	<--		SECURITY MODE COMMAND	
26	-->		SECURITY MODE COMPLETE	
27	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
28		SS		SS configured not to send CP-ACK
29	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 27
30	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 29 may be repeated. The maximum number of retransmissions may however not exceed three.
31	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1M + 5 seconds after the last CP-DATA retransmission.
32	-->		RRC CONNECTION RELEASE COMPLETE	
33	<--		SYSTEM INFORMATION	BCCH
34	-->		RRC CONNECTION REQUEST	CCCH
35	<--		RRC CONNECTION SETUP	CCCH
36	-->		RRC CONNECTION SETUP COMPLETE	DCCH
37	-->		CM SERVICE REQUEST	
38	<--		AUTHENTICATION REQUEST	
39	-->		AUTHENTICATION RESPONSE	
40	<--		SECURITY MODE COMMAND	
41	-->		SECURITY MODE COMPLETE	
42	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
43	<--		CP-ERROR	Sent within TC1M containing "Network Failure" cause.
44	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
45	-->		RRC CONNECTION RELEASE COMPLETE	
46		SS		A data or speech call is established on a DTCH and the state U10 of call control is entered.
47	UE			The UE is set up to send an SM
48	-->		CM SERVICE REQUEST	CM service type set to "short message "
49	<--		CM SERVICE ACCEPT	
50	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)

Step	Direction		Message	Comments
	UE	SS		
51	<--		CP-ACK	Sent within TC1M after step 50
52	<--		CP-DATA	Contains RP-ACK RPDU
53		SS		Waits max 25 seconds for CP-ACK
54	-->		CP-ACK	
55	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
56	-->		RRC CONNECTION RELEASE CONPLETE	
57		SS		A data or speech call is established on a DTCH and the state U10 of call control is entered.
58	-->		CM SERVICE REQUEST	CM service type set to "short message "
59	<--		CM SERVICE ACCEPT	
60	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
61		SS		SS configured not to send CP-ACK
62	-->		CP-DATA	Transmitted CP-DATA message within twice TC1M after step 60
63		UE		Depending on the maximum number of CP-DATA retransmissions implemented, step 62 may be repeated. The maximum number of retransmissions may however not exceed three.
64	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1m + 15 seconds after the last CP-DATA retransmission.
65	-->		RRC CONNECTION RELEASE COMPLETE	
66	<--		SYSTEM INFORMATION	BCCH
67	-->		RRC CONNECTION REQUEST	CCCH
68	<--		RRC CONNECTION SETUP	CCCH
69	-->		RRC CONNECTION SETUP COMPLETE	DCCH
70	-->		CM SERVICE REQUEST	
71	<--		AUTHENTICATION REQUEST	
72	-->		AUTHENTICATION RESPONSE	
73	<--		SECURITY MODE COMMAND	
74	-->		SECURITY MODE COMPLETE	
75	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
76		SS		The SS sends an SM to the UE triggered by the end of the CP-DATA message from the UE
77	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
78		UE		The UE shall correctly receive the SM and indicate that a message has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed. In the MO case the UE shall send the CP-ACK message with transaction identifier assigned to this transfer. In the MT case the UE shall send a CP-ACK message and a CP-DATA message containing the RP-ACK RPDU. The transaction identifier shall be the same as chosen by the SS for the MT transfer.
79	-->		RRC CONNECTION REQUEST	
80	<--		RRC CONNECTION SETUP	
81	-->		RRC CONNECTION SETUP COMPLETE	
82	-->		CM SERVICE REQUEST	. CM service type set to "short message transfer"
83	<--		CM SERVICE REJ	Reject cause set to "Service Option not supported" or "Service Option temporarily out of order"
84		UE		
85	<--		RRC CONNECTION RELEASE	Sent 5 seconds after CM SERVICE REJ
86	-->		RRC CONNECTION RELEASE COMPLETE	

NOTE: Time values for SS wait times are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.

Specific Message Contents

SMS SUBMIT TPDU

Information element	CommentValue
TP-UDL TP-UD (140 octets max)	as applicable maximum number of characters (text of message) as defined by the manufacturer (see ICS/IXIT)

16.1.2.45 Test requirements

After step 9 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 27 UE shall retransmit a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 44 UE shall send the RRC CONNECTION RELEASE COMPLETE.

After step 49 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 60 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 77 UE shall correctly receive the SM and indicate that a message has arrived.

After step 83 UE shall not send CP-DATA.

16.1.3 Test of memory full condition and memory available notification:

The Memory Available Notification provides a means for the UE to notify the network that it has memory available to receive one or more short messages. The SMS status field in the USIM contains status information on the "memory available" notification flag.

16.1.3.1 Definition

16.1.3.12 Conformance requirement

1. When a mobile terminated message is Class 2, the UE shall ensure that the message has been transferred to the SMS data field in the USIM before sending an acknowledgement to the SC. The UE shall return a protocol error message if the short message cannot be stored in the USIM and there is other short message storage available in the UE. If all the short message storage in the UE is already in use, the UE shall return "memory capability exceeded".

2. When the UE rejects a short message due to lack of available memory capability the need to transfer notification shall be stored in the USIM.

3. If the memory capability becomes available because memory is cleared, the value of the memory capability exceeded notification flag in the USIM is read. If the flag is set, the UE notifies the network that memory capability is now available. After a positive acknowledgement from the network, the ME unsets the memory capability exceeded notification flag in the USIM.

References

- TS 23.040, subclause 9.2.3.10, TS 23.038, clause 4.
- TS 23.040, subclause 10.3 (operation 14).
- TS 23.040, subclause 10.3 (operation 14).

16.1.3.23 Test purpose

1. To verify that the UE sends the correct acknowledgement when its memory in the USIM becomes full.

2. To verify that the UE sends the correct acknowledgement when its memory in the ME and the USIM becomes full, and sets the "memory exceeded" notification flag in the USIM.

3. To verify that the UE performs the "memory available" procedure when its message store becomes available for receiving short messages, and only at this moment.

16.1.3.~~3~~4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the SMS message storage shall be empty;
  - the UE shall be connected to the USIM simulator. The following shall be present in the USIM simulator:
    - EF_{SMS} with at least one record;
    - $EF_{SMSstatus}$, with SMS "Memory Cap. Exceed" notification flag set to "memory available";
    - Service no. 4 (SMS) in EF_{SST} set to allocated and activated.
  - for storing of Class 1 Short Messages the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

Whether SMS messages are stored in the USIM and/or the ME.

The value of timer TC1M.

Test procedure

a) step a) of subclause 16.1.5.3 (test of Class 2 Short Messages) is repeated until the UE sends a negative acknowledgement (RP-ERROR). The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

b) a Class 1 Short Message is sent to the UE.

c) step b) is repeated until the UE sends a negative acknowledgement (RP-ERROR). The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

d) a Short Message is sent to the UE with the DCS field of the SMS-DELIVER TPDU set to 0.

e) the SS prompts the operator to read a short message and to remove it from the message store of the UE.

f) the SS waits for a RRC CONNECTION REQUEST from the UE, and sends a RRC CONNECTION SETUP.

g) after the SS receives a RRC CONNECTION SETUP COMPLETE, the SS authenticates the UE and activates ciphering.

h) the SS answers to the RP-SMMA from the UE with a CP-DATA containing a RP-ACK RPDU.

i) after the UE has acknowledged the CP-DATA with a CP-ACK, the SS releases theRRC connection. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been unset on the USIM.

j) step e) is repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
8		SS		Waits max 25 seconds for CP-ACK
9	-->		CP-ACK	
10		SS		Waits max 60 seconds for RP-ACK RPDU
11	-->		CP-DATA	Contains RP-ACK RPDU
12	<--		CP-ACK	Within TC1M after step 11
13	<--		RRC CONNECTION RELEASE	RRC connection is released. Step 1-13 is repeated until UE sends a negative acknowledgement (RP-ERROR) in step 16. The RP-ERROR RPDU cause field shall be "Protocol error, unspecified" if there is message capability in the ME, or "Memory capability exceeded" if there is no message capability in the ME. If the total memory store of the UE is full, the ME shall set the "memory capability exceeded" notification flag on the USIM.
14	-->		RRC CONNECTION RELEASE COMPLETE	
15			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 1 Short Message
22		SS		Waits max 25 seconds for CP-ACK
23	-->		CP-ACK	
24		SS		Waits max 60 seconds for RP-ACK RPDU
25	-->		CP-DATA	Shall contain RP-ACK RPDU if there is memory capability in the ME. If not it shall contain RP-ERROR RPDU which cause field shall be "memory capability exceeded". If the total memory store of the UE now becomes full at this step, the ME shall set the "memory cap. exceed" notification flag on the USIM.
26	<--		CP-ACK	Within TC1M after step 25
27	<--		RRC CONNECTION RELEASE	RRC connection is released. Step 15-27 is repeated until the UE sends an RP-ERROR. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.
28	-->		RRC CONNECTION RELEASE COMPLETE	
29			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108

Step	Direction		Message	Comments
	UE	SS		
30	-->		PAGING RESPONSE	
31	<--		AUTHENTICATION REQUEST	
32	-->		AUTHENTICATION RESPONSE	
33	<--		SECURITY MODE COMMAND	
34	-->		SECURITY MODE COMPLETE	
35	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) with TP-DCS set to 0
36		SS		Waits max 25 seconds for CP-ACK
37	-->		CP-ACK	
38		SS		Waits max 60 seconds for RP-ACK RPDU
39	-->		CP-DATA	Shall contain RP-ERROR RPDU with error cause "memory capability exceeded".
40	<--		CP-ACK	Within TC1M after step 39
41	<--		RRC CONNECTION RELEASE	RRC connection is released.
42	-->		RRC CONNECTION RELEASE COMPLETE	
43		SS		Prompts the operator to remove one of the short messages from the message store of the UE.
44	<--		SYSTEM INFORMATION	BCCH
45	-->		RRC CONNECTION REQUEST	CCCH
46	<--		RRC CONNECTION SETUP	CCCH
47	-->		RRC CONNECTION SETUP COMPLETE	DCCH
48	-->		CM SERVICE REQUEST	CM service type information element is set to "Short message transfer".
49	<--		CM SERVICE ACCEPT	
50	-->		CP-DATA	Contains RP-SMMA RPDU
51	<--		CP-ACK	
52	<--		CP-DATA	Contains RP-ACK RPDU
53	-->		CP-ACK	Acknowledge of CP-DATA containing the RP-ACK RPDU. The ME shall unset the "memory capability exceeded" notification flag on the USIM.
54	<--		RRC CONNECTION RELEASE	RRC connection is released. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been unset on the USIM.
55	-->		RRC CONNECTION RELEASE COMPLETE	
56		SS		Prompts the operator to remove one of the short messages from the message store of the UE.
57	UE			Shall not attempt to send a RP-SMMA RPDU. This is verified by checking that the UE does not send a CHANNEL REQUEST message with the establishment cause "Other services which can be completed with an SDCCH"

NOTE: Time values for SS wait time are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.

Specific Message Contents

SMS-DELIVER TPDU in step 7

Information element	CommentValue
TP-DCS	default alphabet, class 2"11110010"B

SMS-DELIVER TPDU in step 21

TP-DCS	default alphabet, class 1"11110001"B

SMS-DELIVER TPDU in step 35

TP-DCS	default alphabet "00000000"B

16.1.3.45 Test requirements

After UE sends a negative acknowledgement (RP-ERROR) in step 11, the USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

After UE sends a negative acknowledgement (RP-ERROR) in step 23, the USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

After step 53 the ME shall unset the "memory capability exceeded" notification flag on the USIM.

After step 56 UE shall not attempt to send a RP-SMMA RPDU.

16.1.4 Test of the status report capabilities and of SMS-COMMAND:

This test applies to UEs which support the status report capabilities.

16.1.4.1 Definition

16.1.4.12 Conformance requirement

The SMS offers the SC the capabilities of informing the UE of the status of a previously sent mobile originated short message. This is achieved by the SC returning a status report TPDU (SMS-STATUS-REPORT) to the originating UE.

SMS-COMMAND enables an UE to invoke an operation at the SC.

The UE shall increment TP-MR by 1 for each SMS-SUBMIT or SMS-COMMAND being submitted.

References

- TS 23.040, subclause 3.2.9.
- TS 23.040, subclause 9.2.3.6.

16.1.4.23 Test purpose

1) To verify that the UE is able to accept a SMS-STATUS-REPORT TPDU.
2) To verify that the UE is able to use the SMS-COMMAND functionality correctly and sends an SMS-COMMAND TPDU with the correct TP-Message-Reference.

16.1.4.34 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:

- the UE shall be in the idle updated state.

Related ICS/IXIT Statements

Support of SMS MO/PP and MT/PP.

Test procedure

a) The UE is made to send a Mobile Originated short message setting TP-SRR as in steps a) to d) of test 16.1.2 (SMS Mobile originated).

b) The SS sends a CP-DATA message containing a RP-DATA RPDU itself containing an SMS-STATUS-REPORT TPDU.

c) The SS sends a RRC CONNECTION RELEASE message.

d) The UE is made to send an SMS-COMMAND message enquiring about the previously submitted short message.

e)

f) The SS acknowledges the CP-DATA message from the UE with a CP-ACK followed by a CP-DATA message containing an RP-ACK RPDU

g) After receiving the CP-ACK from the UE, the SS releases the RRC connection by using a RRC CONNECTION RELEASE message.

h) The UE is made to send an SMS-COMMAND message requiring to delete the previously submitted short message.

i) steps e) to g) are repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION	BCCH
2	-->		RRC CONNECTION REQUEST	CCCH
3	<--		RRC CONNECTION SETUP	CCCH
4	-->		RRC CONNECTION SETUP COMPLETE	DCCH
5	-->		CM SERVICE REQUEST	
6	<--		AUTHENTICATION REQUEST	
7	-->		AUTHENTICATION RESPONSE	
8	<--		SECURITY MODE COMMAND	
9	-->		SECURITY MODE COMPLETE	
10	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11	<--		CP-ACK	Sent within TC1M after step 10
12	<--		CP-DATA	Contains RP-ACK RPDU
13		SS		Waits max 25 seconds for CP-ACK
14	-->		CP-ACK	
15	<--		RRC CONNECTION RELEASE	RRC connection is released.
16	-->		RRC CONNECTION RELEASE COMPLETE	
17			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
18	-->		PAGING RESPONSE	
19	<--		AUTHENTICATION REQUEST	

Step	Direction		Message	Comments
	UE	SS		
20	-->		AUTHENTICATION RESPONSE	
21	<--		SECURITY MODE COMMAND	
22	-->		SECURITY MODE COMPLETE	
23	<--		CP-DATA	Contains RP-DATA RPDU (SMS-STATUS-REPORT TPDU)
24	-->		CP-ACK	
25	-->		CP-DATA	Contains RP-ACK RPDU
26	<--		CP-ACK	
27	<--		RRC CONNECTION RELEASE	RRC connection is released.
28	-->		RRC CONNECTION RELEASE COMPLETE	
29	UE			The UE is made to send an SMS-COMMAND message enquiring about the previously submitted SM
30	<--		SYSTEM INFORMATION	BCCH
31	-->		RRC CONNECTION REQUEST	CCCH
32	<--		RRC CONNECTION SETUP	CCCH
33	-->		RRC CONNECTION SETUP COMPLETE	DCCH
34	-->		CM SERVICE REQUEST	
35	<--		AUTHENTICATION REQUEST	
36	-->		AUTHENTICATION RESPONSE	
37	<--		SECURITY MODE COMMAND	
38	-->		SECURITY MODE COMPLETE	
39	-->		CP-DATA	Contains RP-DATA RPDU (SMS-COMMAND TPDU) which shall contain the correct TP-MR
40	<--		CP-ACK	
41	<--		CP-DATA	Contains RP-ACK RPDU
42	-->		CP-ACK	
43	<--		RRC CONNECTION RELEASE	RRC connection is released.
44	-->		RRC CONNECTION RELEASE COMPLETE	
45	UE		The UE is made to send an SMS-COMMAND	message requiring to delete the previously submitted SM.
46	-->		RRC CONNECTION REQUEST	CCCH
47	<--		RRC CONNECTION SETUP	CCCH
48	-->		RRC CONNECTION SETUP COMPLETE	DCCH
49	-->		CM SERVICE REQUEST	
50	<--		AUTHENTICATION REQUEST	
51	-->		AUTHENTICATION RESPONSE	
52	<--		SECURITY MODE COMMAND	
53	-->		SECURITY MODE COMPLETE	
	.			
54	-->		CP-DATA	Contains RP-DATA RPDU (SMS-COMMAND TPDU) which shall contain the correct TP-MR
55	<--		CP-ACK	
56	<--		CP-DATA	Contains RP-ACK RPDU
57	-->		CP-ACK	
58	<--		RRC CONNECTION RELEASE	RRC connection is released.
59	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS SUBMIT TPDU

Information element	Comment Value
TP-SRR	status report is requested "1"B

SMS-STATUS-REPORT TPDU (SS to UE in step 23):

Information element	Comment Value
TP-MR	same as previous SMS-SUBMIT
TP-MMS	no more messages "1"B
TP-SRQ	result of SMS-SUBMIT "0"B
TP-RA	same as the Destination address of the SMS-SUBMIT
TP-ST	SM received "00000000"B

first SMS-COMMAND TPDU (UE to SS in step 39)

Information element	Comment Value
TP-MR	TP-MR in previous SMS-SUBMIT plus "1"
TP-SRR	status report requested "1"B
TP-CT	Enquiry relating to previously submitted short message "00000000"B
TP-MN	not checked (TP-MR in previous SMS-SUBMIT)

second SMS-COMMAND TPDU (UE to SS in step 54)

Information element	Comment Value
TP-MR	TP-MR in previous SMS-COMMAND plus "1"
TP-CT	Delete previously submitted short message "00000010"B
TP-MN	not checked (TP-MR in previous SMS-SUBMIT)

16.1.4.45 Test requirements

After step 23 UE accept a SMS-STATUS-REPORT TPDU.

After step 38 UE shall send a SMS-COMMAND TPDU with the correct TP-Message-Reference.

After step 53 UE shall send a SMS-COMMAND TPDU with the correct TP-Message-Reference.

16.1.5 Test of message class 0 to 3

The tests under this subclause only apply to a UE capable of displaying short messages (see ICS/IXIT).

16.1.5.1 Short message class 0

16.1.5.1.1 Definition

16.1.5.1.12 Conformance requirement

When a mobile terminated message is class 0 and the UE has the capability of displaying short messages, the UE shall display the message immediately and send an acknowledgement to the SC when the message has successfully reached the UE irrespective of whether there is memory available in the USIM or ME. The message shall not be automatically stored in the USIM or ME.

References

TS 23.038, clause 4.

16.1.5.1.23 Test purpose

To verify that the UE will accept and display but not store a class 0 message, and that it will accept and display a class 0 message if its message store is full.

NOTE: failure of this test in a UE could cause it to reject a class 0 message when its SMS memory becomes full. This could lead to unwanted repetitions between the UE and the service centre.

16.1.5.1.~~3~~4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS sends a class 0 message by using the method described in step a) of subclause 16.1.1 but with the TPDU described in this subclause.

b) The UE message store shall be filled (for example by using the method of subclause 16.1.3 test of the memory available notification) with the same SMS-DELIVER TPDU except that TP-DCS is set to class 1.

c) The SS sends a class 0 message as in step a).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The content of the short message shall be displayed by the ME. The UE shall not store the message. This can be checked by verifying that it is impossible to retrieve any short messages from the UE message store.
14		SS		The UE message store shall be filled (for example by using the method of 16.1.3) with Class 1 SMS-DELIVER TPDU.
15			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 0 Short Message
22	-->		CP-ACK	
23	-->		CP-DATA	Contains RP-ACK RPDU.
24	<--		CP-ACK	
25	<--		RRC CONNECTION RELEASE	
26	-->		RRC CONNECTION RELEASE COMPLETE	
27	UE			The content of the short message shall be displayed by the ME.

Specific Message Contents

SMS-DELIVER TPDU (containing a class 0 message) (SS to UE)

Information element	CommentValue	
TP-DCS	default alphabet, class 0	"1111 0000"B

SMS-DELIVER TPDU (containing a class 1 message to fill the UE message store) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 1	"1111 0001"B

16.1.5.1.~~4~~5 Test requirements

After step 7 UE shall accept and display but not store a class 0 message.

After step 21 UE shall accept and display a class 0 message.

16.1.5.2 Test of class 1 short messages

This test shall apply to UEs which support:

- storing of received Class 1 Short Messages; and
- displaying of stored Short Messages.

16.1.5.2.1 Definition

16.1.5.2.~~1~~2 Conformance requirement

When a mobile terminated message is class 1, the UE shall send an acknowledgement to the SC when the message has successfully reached the UE and can be stored, either in the ME or in the USIM.

References

TS 23.038, clause 4.

16.1.5.2.~~2~~3 Test purpose

This procedure verifies that the UE acts correctly on receiving a class 1 message, i.e. that it stores the message in the ME or USIM and sends an acknowledgement (at RP and CP-Layer).

16.1.5.2.~~3~~4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the UE message store shall be empty;
  - for storing of class 1 Short Messages, the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS delivers a Short Message of class 1 to the UE as specified in subclause 16.1.1, step a).

b) The Short Message is recalled (e.g. by means of the MMI).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 1 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The short message shall be recalled and displayed at the UE.

Specific Message Contents

SMS-DELIVER TPDU (containing a class 1 message) (SS to UE)

Information element	CommentValue	
TP-DCS	default alphabet, class 1	"1111 0001"B

16.1.5.2.~~4~~5 Test requirements

After step 7 UE shall store the message in the ME or USIM and send an acknowledgement.

16.1.5.3 Test of class 2 short messages

16.1.5.3.1 Definition

Class 2 Short Messages are defined as USIM specific, and the UE shall ensure that a message of this class is stored on the USIM.

16.1.5.3.2 Conformance requirement

When a mobile terminated message is Class 2, the UE shall ensure that the message has been correctly transferred to the SMS data field in the USIM before sending an acknowledgement to the SC. The UE shall return a "protocol error, unspecified" error message if the short message cannot be stored in the USIM and there is other short message storage available at the UE. If all the short message storage at the UE is already in use, the UE shall return "memory capacity exceeded".

Reference(s)

TS 23.040, subclause 9.2.3.10; TS 23.038, clause 4. TS 34.108,subclause6.11.3.2.27

16.1.5.3.3 Test purpose

This procedure verifies that the UE acts correctly on receiving a class 2 message, i.e. that it stores the message correctly in the USIM, and if this is not possible, returns a protocol error message, with the correct error cause, to the network.

There are 2 cases:

1) if the UE supports storing of short messages in the USIM and in the ME, and storage in the ME is not full, and the short message cannot be stored in the USIM, the error cause shall be "protocol error, unspecified";

2) if the UE supports storing of short messages in the USIM and not in the ME, and storage in the ME is not full, and the short message cannot be stored in the USIM, the error cause shall be "memory capacity exceeded".

NOTE: If the UE supports storing of short messages in the USIM and the ME, and storage in the ME is full, and the short message cannot be stored in the USIM, the error cause shall be "memory capacity exceeded". This case is not tested in this test.

16.1.5.3.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the ME message store shall be empty;
  - the ME shall be connected to the USIM simulator. The following shall be present in the USIM simulator:
    - EF_{SMS} with at least two free records and one full record;
    - $EF_{SMSstatus}$, with SMS "Memory Cap. Exceed" notification flag set to "memory available";
    - Service no. 4 (SMS) in EF_{SST} set to allocated and activated;
    - for storing of Class 1 Short Messages the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS delivers a Short Message of class 2 to the UE as specified in subclause 16.1.1, step b).

b) Following an attempt by the ME to store the short message in a free record of EF_{SMS} in the USIM, the USIM simulator returns the status response "OK" ("90 00").

c) Step a) is repeated.

d) Following an attempt by the ME to store the short message in a free record of EF_{SMS} in the USIM, the USIM simulator returns the status response "memory problem" ("92 40").

e) The USIM simulator indicates if an attempt was made in steps a) and c) to store the messages and if the messages are stored according to the requirement.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<		Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
8	-->		CP-ACK	
9	ME			The ME shall correctly store the short message in a free record of EFSMS in the USIM, i.e. -the ME shall use a free record - the first byte of the record shall indicate "message received by UE from network" - the TS-Service-Centre-Address shall be correctly stored - the TPDU shall be identical to that sent by the SS - bytes following the TPDU shall be set to "FF"
10	USIM			The USIM simulator returns the status response "OK" ("90 00"). The USIM simulator shall indicate if an attempt was made by the ME to store the short message in the USIM.
11	-->		CP-DATA	Contains RP-ACK RPDU.
12	<--		CP-ACK	
13	<--		RRC CONNECTION RELEASE	
14	-->		RRC CONNECTION RELEASE COMPLETE	
15			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
16	-->		PAGING RESPONSE	
17	<--		AUTHENTICATION REQUEST	
18	-->		AUTHENTICATION RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
22	-->		CP-ACK	
23	ME			The ME shall attempt to store the short message in a free record of EFSMS in the USIM.
24	USIM			The USIM simulator returns the status response "memory problem" ("92 40"). The USIM simulator shall indicate if an attempt was made by the ME to store the short message in the USIM.
25	-->		CP-DATA	Contains RP-ERROR RPDU with error cause "protocol error, unspecified" if the UE supports storing of short messages in the ME, or error cause "memory capacity exceeded" if not.
26	<--		CP-ACK	
27	<--		RRC CONNECTION RELEASE	
28	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS-DELIVER TPDU (containing a class 2 message) (SS to UE)

Information element	CommentValue	
TP-DCS	default alphabet, class 2	"1111 0010"B

16.1.5.3.45 Test requirements

After step 10 UE shall confirm that the short message is stored in the USIM and send CP-DATA containing RP-ACK RPDU.

After step 24 UE shall confirm that the short message cannot be stored in the USIM and send CP-DATA containing RP-ERROR RPDU. If UE supports storing of short message in the ME, the error cause of RP-ERROR RPDU shall be “protocol error, unspecified”, and if not the error cause of RP-ERROR RPDU shall be “memory capacity exceeded”

16.1.5.4 Test of class 3 short messages

For further study.

16.1.6 Test of short message type 0

For further study.

16.1.7 Test of the replace mechanism for SM type 1-7

16.1.7.1 Definition

16.1.7.2 Conformance requirement

On receipt of a short message, the UE shall check to see if the associated Protocol Identifier contains a Replace Short Message Type code. If such a code is present, then the UE will check the associated SC address (RP-OA) and originating address (TP-OA) and replace any existing stored message having the same Protocol Identifier code, SC address and originating address with the new short message.

Reference(s)

TS 23.040; subclause 9.2.3.9.

16.1.7.3 Test purpose

This procedure verifies the correct implementation of the replace mechanism for Replace Short Messages.

16.1.7.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

The value of timer TC1M.

Test procedure

a) Two different numbers n and m are drawn randomly between 1 and 7. Two different addresses for TP-Originating-Address (TPOA1 and TPOA2) are drawn. Two different addresses for RP-Originating-Address (RPOA1 and RPOA2) are drawn.

b) The SS delivers a short message to the UE as specified in subclause 16.1.1 step a). In the SMS-DELIVER TPDU, the TP-Protocol-Identifier parameter is "Replace Short Message Type n", the TP-Originating-Address is TPOA1, and the RP-Originating-Address is RPOA1.

c) Step b) is repeated but with a different TP-Originating-Address (TPOA2), and different contents of TP-User-Data in the SMS-DELIVER TPDU. The other parameters are the same as in step b).

d) Step c) is repeated but with RPOA2 in the RP-Originated-Address, and contents of TP-User-Data different from the former two messages. The other parameters are the same as in step c).

e) Step d) is repeated but with the TP-Protocol-Identifier equal to "Replace Short Message Type m", and contents of TP-User-Data different from the former three messages. The other parameters are the same as in step d).

f) Step e) is repeated but the contents of TP-User-Data are different from that used in step e).

g) The SS prompts the operator to display the Short Messages stored in the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108

Step	Direction		Message	Comments
	UE	SS		
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA1 and RP-OA is RPOA1
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
14	-->		PAGING RESPONSE	
15	<--		AUTHENTICATION REQUEST	
16	-->		AUTHENTICATION RESPONSE	
17	<--		SECURITY MODE COMMAND	
18	-->		SECURITY MODE COMPLETE	
19	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA1, TP-UD different from step 7
20	-->		CP-ACK	
21	-->		CP-DATA	Contains RP-ACK RPDU.
22	<--		CP-ACK	
23	<--		RRC CONNECTION RELEASE	
24	-->		RRC CONNECTION RELEASE COMPLETE	
25			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
26	-->		PAGING RESPONSE	
27	<--		AUTHENTICATION REQUEST	
28	-->		AUTHENTICATION RESPONSE	
29	<--		SECURITY MODE COMMAND	
30	-->		SECURITY MODE COMPLETE	
31	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA2, TP-UD different from step 7 and 19
32	-->		CP-ACK	
33	-->		CP-DATA	Contains RP-ACK RPDU.
34	<--		CP-ACK	
35	<--		RRC CONNECTION RELEASE	
36	-->		RRC CONNECTION RELEASE COMPLETE	
37			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108

Step	Direction		Message	Comments
	UE	SS		
38	-->		PAGING RESPONSE	
39	<--		AUTHENTICATION REQUEST	
40	-->		AUTHENTICATION RESPONSE	
41	<--		SECURITY MODE COMMAND	
42	-->		SECURITY MODE COMPLETE	
43	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA2, TP-UD different from step 7, 19 and 31
44	-->		CP-ACK	
45	-->		CP-DATA	Contains RP-ACK RPDU.
46	<--		CP-ACK	
47	<--		RRC CONNECTION RELEASE	
48	-->		RRC CONNECTION RELEASE COMPLETE	
49			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
50	-->		PAGING RESPONSE	
51	<--		AUTHENTICATION REQUEST	
52	-->		AUTHENTICATION RESPONSE	
53	<--		SECURITY MODE COMMAND	
54	-->		SECURITY MODE COMPLETE	
55	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA2, TP-UD different from step 43
56	-->		CP-ACK	
57	-->		CP-DATA	Contains RP-ACK RPDU.
58	<--		CP-ACK	
59	<--		RRC CONNECTION RELEASE	
60	-->		RRC CONNECTION RELEASE COMPLETE	
61	SS			Prompts the operator to display the Short Messages stored in the UE. Only the Short Messages delivered in step 7, 19, 31 and 55 shall be retrievable and displayed

Specific Message Contents

SMS-DELIVER TPDU

Information element	CommentValue
TP-MMS	no more messages are waiting in SC "1"B
TP-PID	binary 01000xxx, xxx represents n resp. m (see test method description)

16.1.7.5 Test requirements

After step 60 only the Short Messages delivered in step 7, 19, 31 and 55 shall be retrieved and displayed.

16.1.8 Test of the reply path scheme

16.1.8.1 Definition

16.1.8.2 Conformance requirement

When a replying UE receives an original mobile terminated short message it has:

- originating SME = TP-Originating Address in the SMS-DELIVER TPDU;
- original SC = RP-Originating Address in the RP-MT-DATA.

When submitting the reply mobile originated short message, the replying UE should use parameters as follows:

- TP-Destination Address in SMS-SUBMIT TPDU = originating SME;
- RP-Destination Address in RP-MO-DATA = original SC.

Reference(s)

TS 23.040 Annex D.5,D.6

16.1.8.3 Test purpose

This procedure verifies that the UE is able to send a Reply Short Message back to the correct originating SME even if in the meantime it receives another Short Message.

16.1.8.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Support for Short message MO/PP.

Description of the basic procedures to display a mobile terminated short message.

Description of the basic procedures to send a mobile originated short message.

The value of timer TC1M.

Test procedure

a) The SS delivers a Short Message as specified in subclause 16.1.1, step b) with TP-Reply-Path set to 1.

b) Step a) is repeated but with:
   - different TP-Originating-Address for the originating SME;

- different RP-Originating-Address for the original SC; and
- different message contents TP-User-Data.

c) One of the two Short Messages is displayed (e.g. by means of the MMI) and the Reply Short Message is submitted (e.g. by means of the MMI).

d) step c) is repeated for the other Short Message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		PAGING RESPONSE	
3	<--		AUTHENTICATION REQUEST	
4	-->		AUTHENTICATION RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-RP set to 1
8	-->		CP-ACK	Sent within TC1M after step 7
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
14	-->		PAGING RESPONSE	
15	<--		AUTHENTICATION REQUEST	
16	-->		AUTHENTICATION RESPONSE	
17	<--		SECURITY MODE COMMAND	
18	-->		SECURITY MODE COMPLETE	
19	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-OA, RP-OA and TP-UD different from step 7
20	-->		CP-ACK	Sent within TC1M after step 7
21	-->		CP-DATA	Contains RP-ACK RPDU.
22	<--		CP-ACK	
23	<--		RRC CONNECTION RELEASE	
24	-->		RRC CONNECTION RELEASE COMPLETE	
25	UE			One of the two Short Messages is displayed and the Reply Short Message is submitted.
26	<--		SYSTEM INFORMATION	BCCH
27	-->		RRC CONNECTION REQUEST	CCCH
28	<--		RRC CONNECTION SETUP	CCCH
29	-->		RRC CONNECTION SETUP COMPLETE	DCCH
30	-->		CM SERVICE REQUEST	
31	<--		AUTHENTICATION REQUEST	
32	-->		AUTHENTICATION RESPONSE	
33	<--		SECURITY MODE COMMAND	

Step	Direction		Message	Comments
	UE	SS		
34	-->		SECURITY MODE COMPLETE	
35	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU) RP-DA = RP-OA corresponding to the message displayed TP-DA = TP-OA corresponding to the message displayed
36	<--		CP-ACK	Sent within TC1M after step 35
37	<--		CP-DATA	Contains RP-ACK RPDU
38	SS			Waits max 25 seconds for CP-ACK
39	-->		CP-ACK	
40	<--		RRC CONNECTION RELEASE	RRC connection is released.
	-->		RRC CONNECTION RELEASE COMPLETE	
41	UE			The other Short Message is displayed and the Reply Short Message is submitted.
42	<--		SYSTEM INFORMATION	BCCH
43	-->		RRC CONNECTION REQUEST	CCCH
44	<--		RRC CONNECTION SETUP	CCCH
45	-->		RRC CONNECTION SETUP COMPLETE	DCCH
46	-->		CM SERVICE REQUEST	
47	<--		AUTHENTICATION REQUEST	
48	-->		AUTHENTICATION RESPONSE	
49	<--		SECURITY MODE COMMAND	
50	-->		SECURITY MODE COMPLETE	
51	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU) RP-DA = RP-OA corresponding to the Message displayed TP-DA = TP-OA corresponding to the message displayed
52	<--		CP-ACK	Sent within TC1M after step 51
53	<--		CP-DATA	Contains RP-ACK RPDU
54	SS			Waits max 25 seconds for CP-ACK
55	-->		CP-ACK	
56	<--		RRC CONNECTION RELEASE	RRC connection is released.
57	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS-DELIVER TPDU

Information element	CommentValue
TP-MMS	no more messages are waiting in SC "1"B
TP-RP	Reply Path exists "1"B

16.1.8.5 Test requirements

After step 34 UE shall send the Reply Short Message corresponding to one of two previously received short messages.

After step 50 UE shall send the Reply Short Message corresponding to the other of two previously received short messages.

16.1.9 Multiple SMS mobile originated

16.1.9.1 UE in idle mode

This test applies to UE supporting the ability of sending multiple short messages on the same RRC connection when there is no call in progress.

16.1.9.1.1 Definition

16.1.9.1.~~1~~2 Conformance requirements

When the UE chooses to use the same RRC connection to send another short message or a memory available notification, then:

- the UE shall transmit a CM SERVICE REQUEST for the new CM connection before the final CP-ACK (e.g. the one that acknowledges the CP-DATA that carried the RP-ACK) for the old MM connection is transmitted;
- before transmission of the first CP-DATA on the new MM connection, the UE shall transmit the CP-ACK for the old MM connection;
- the Transaction Identifier used on the new MM connection shall be different to that used on the old MM connection; and
- the UE shall not initiate establishment of the new MM connection before the final CP-DATA (e.g. the one carrying the RP-ACK) has been received.

Reference

- TS 23.040; subclause 3.1.
- TS 24.011; subclause 5.4.

16.1.9.1.~~2~~3 Test purpose

To verify that the UE is able to correctly send multiple short messages on the same RRC connection when using a DCCH.

16.1.9.1.~~3~~4 Method of test

Initial conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in "Idle, updated" state;
  - the SMS message storage shall be empty.

Related ICS/IXIT statements

Support for multiple short message MO/PP on the same RRC connection.

Description of how to enter multiple SMS.

Description of the basic procedures to display a mobile originated short message.

Whether SMS messages are stored in the USIM and/or the ME.

Foreseen final state of UE

Idle, updated.

Test procedure

a) The UE shall be set up to send 3 short messages as multiple SM to the SS. The SS answers correctly to RRC CONNECTION REQUEST on CCCH and then performs the authentication.

b) After receiving SECURITY MODE COMMAND UE shall send SECURITY COMMAND COMPLETE.

c) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU. The Transaction Identifier used on this MM connection is 'x'.

d) The UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK (the one that acknowledges the CP-DATA that carried the RP-ACK before) for the old MM connection is transmitted. The UE shall not initiate establishment of the new MM connection before the final CP-DATA (i.e. the one carrying the RP-ACK for the first short message) has been received. Before transmission of the first CP-DATA on the new MM connection, the UE shall transmit the CP-ACK for the old MM connection. The Transaction Identifier used on the new MM connection shall be y, where y <> x (see procedure c)).

e) The SS waits a maximum of 5 seconds after receiving the CM SERVICE REQUEST for the CP-ACK message from the UE.

f) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU.

g) The UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK (the one that acknowledges the CP-DATA that carried the RP-ACK before) for the old MM connection is transmitted. Before transmission of the first CP-DATA on the new MM connection, the UE shall transmit the CP-ACK for the old MM connection. The Transaction Identifier used on the new MM connection shall be z, where z <> y (see procedure d)). The UE shall not initiate establishment of the new MM connection before the final CP-DATA (i.e. the one carrying the RP-ACK for the second short message) has been received.

h) The SS waits a maximum of 5 seconds after receiving the CM SERVICE REQUEST for the CP-ACK message from the UE.

i) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU.

j) The SS waits a maximum of 5 seconds after sending CP-DATA for the CP-ACK message from the UE.

k) The SS sends a RRC CONNECTION RELEASE to the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<--	SYSTEM INFORMATION	BCCH
2		-->	RRC CONNECTION REQUEST	CCCH
3		<--	RRC CONNECTION SETUP	CCCH
4		-->	RRC CONNECTION SETUP COMPLETE	DCCH
5		-->	CM SERVICE REQUEST	
6		<--	AUTHENTICATION REQUEST	
7		-->	AUTHENTICATION RESPONSE	
8		<--	SECURITY MODE COMMAND	
9		-->	SECURITY MODE COMPLETE	
10		-->	CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 10, 11, 12 and 14 shall be x.
11		<--	CP-ACK	
12		<--	CP-DATA	Contains RP-ACK RPDU
13		-->	CM SERVICE REQUEST	CM service type set to "Short message transfer".

Step	Direction		Message	Comments
	UE	SS		
14	-->		CP-ACK	Shall be sent within 5 seconds of step 13
15	<--		CM SERVICE ACCEPT	
16	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 16, 17, 18 and 20 shall be y where y <> x (see step 10).
17	<--		CP-ACK	
18	<--		CP-DATA	Contains RP-ACK RPDU
19	-->		CM SERVICE REQUEST	CM service type set to "Short message transfer".
20	-->		CP-ACK	Shall be sent within 5 seconds of step 19
21	<--		CM SERVICE ACCEPT	
22	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 22, 23, 24 and 25 shall be z, where z <> y (see step 16).
23	<--		CP-ACK	
24	<--		CP-DATA	Contains RP-ACK RPDU
25	-->		CP-ACK	Shall be sent within 5 seconds of step 24
26	<--		RRC CONNECTION RELEASE	RRC connection is released.
27	-->		RRC CONNECTION RELEASE COMPLETE	

16.1.9.1.~~4~~5 Test requirements

In step 12 the UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK for the old MM connection is transmitted.

In step 13 the UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK for the old MM connection is transmitted.

16.1.9.2 UE in active mode

This test applies to UE supporting the ability of sending concatenated multiple short messages when there is a call in progress.

16.1.9.2.1 Definition

16.1.9.2.~~1~~2 Conformance requirements

When the UE chooses to use the same RRC connection to send another short message or a memory available notification, then:

- the UE shall transmit a CM SERVICE REQUEST for the new CM connection before the final CP-ACK (e.g. the one that acknowledges the CP-DATA that carried the RP-ACK) for the old MM connection is transmitted;
- before transmission of the first CP-DATA on the new MM connection, the UE shall transmit the CP-ACK for the old MM connection;
- the Transaction Identifier used on the new MM connection shall be different to that used on the old MM connection; and
- the UE shall not initiate establishment of the new MM connection before the final CP-DATA (e.g. the one carrying the RP-ACK) has been received.

Reference

- TS 23.040; subclause 3.1.
- TS 24.011; subclause 5.4.

16.1.9.2.~~2~~3 Test purpose

To verify that the UE is able to correctly concatenate multiple short messages on the same RRC connection when sent parallel to a call.

16.1.9.2.~~3~~4 Method of test

Initial conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in "Idle, updated" state;
  - the SMS message storage shall be empty.

Related ICS/IXIT statements

Support for multiple short message MO/PP on the same RRC connection.

Description of how to enter multiple SMS.

Description of the basic procedures to display a mobile originated short message.

Support for state U10 of call control.

Whether SMS messages are stored in the USIM and/or the ME.

Foreseen final state of UE

Idle, updated.

Test procedure

a) A data or speech call is established on a DTCH with the SS and the state U10 of call control is entered. The UE is set up to send 3 short messages as multiple SM to the SS. After the reception of the CM SERVICE REQUEST, the SS sends a CM SERVICE ACCEPT message. b) Steps c) to k) of the test procedure in subclause 16.1.9.1.~~3~~4 are repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		A data or speech call is established on a DTCH and the state U10 of call control is entered.
2	UE			The UE is set up to send 3 short messages as multiple SM
3	-->		CM SERVICE REQUEST	Sent in a layer 2 frame on the DCCH. CM service type set to "short message transfer"
4	<--		CM SERVICE ACCEPT	
7	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 7, 8, 9 and 11 shall be x.
8	<--		CP-ACK	
9	<--		CP-DATA	Contains RP-ACK RPDU
10	-->		CM SERVICE REQUEST	Sent in a layer 2 frame on the DCCH. CM service type set to "short message transfer"
11	-->		CP-ACK	Shall be sent within 5 seconds of step 10
12	<--		CM SERVICE ACCEPT	
13	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 13, 14, 15 and 17 shall be y where y <> x (see step 7).
14	<--		CP-ACK	
15	<--		CP-DATA	Contains RP-ACK RPDU
16	-->		CM SERVICE REQUEST	Sent in a layer 2 frame on the DCCH. CM service type set to "short message transfer"
17	-->		CP-ACK	Shall be sent within 5 seconds of step 16
18	<--		CM SERVICE ACCEPT	
19	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 19, 20, 21 and 22 shall be z, where z <> y (see step 13).
20	<--		CP-ACK	
21	<--		CP-DATA	Contains RP-ACK RPDU
22	-->		CP-ACK	Shall be sent within 5 seconds of step 21
23	<--		RRC CONNECTION RELEASE	RRC connection is released.
24	-->		RRC CONNECTION RELEASE COMPLETE	

16.1.9.2.~~4~~5 Test requirements

In step 9 the UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK for the old MM connection is transmitted.

In step 15 the UE shall transmit a CM SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK for the old MM connection is transmitted.

16.2 Short message service point to point on PS mode

All of test cases in this subclause are applied to the UE supported PS mode.

16.2.1 SMS mobile terminated

16.2.1.1 Definition

16.2.1.~~1~~2 Conformance requirements

An active UE shall be able to receive short message TPDU (SMS-DELIVER) at any time, independently of whether or not there is a PDP context in progress. A report will always be returned to the SC, confirming that the UE has received the short message.

Reference

TS 23.040, subclause 3.1.

16.2.1.~~2~~3 Test purpose

To verify the ability of a UE to receive and decode the SMS where provided for the point to point service.

16.2.1.~~3~~4 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in "Idle, updated" state;
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Support for session management state"PDP-ACTIVE".

Test procedure

a) ~~The SS initiates the establishment of RRC Connection~~ Mobile terminates establishment of Radio Resource Connection. After the completion of RRC Connection the SS authenticates the UE and activates ciphering.

   After the SS receives SECURITY MODE COMPLETE, the SS sends a CP-DATA message. The information element of the CP-DATA message will be RP-DATA RPDU (SMS DELIVER TPDU).

b) The SS waits a maximum of 25 seconds for the CP-ACK message and then a maximum of 60 seconds for the CP-DATA message containing the RP-ACK RPDU.

c) The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release.

d) Steps a), b) and c) are repeated but the first CP-DATA message from the UE is not acknowledged. The second CP-DATA message from the UE is acknowledged by a CP-ACK within a time TC1M.

e) Steps a) and b) are repeated. The SS is configured not to send CP-ACK. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 seconds after the last CP-DATA retransmission the SS then initiates the channel release. The 5 seconds is the appropriate time to wait to verify that the UE does not send more than the maximum allowed (3) CP-DATA retransmissions.

f) The SMS message store shall be cleared manually by the operator.

g) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. The SS sends a PAGING TYPE 2.

The SS sends a CP-DATA message. The information element of the CP-DATA message will be RP-DATA RPDU (SMS DELIVER TPDU). The SS waits a maximum of 25 seconds for the CP-ACK message and then a maximum of 60 seconds for the CP-DATA message containing the RP-ACK RPDU.

h) The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release. The SMS message store shall be cleared manually by the operator.

i) Steps g) and h) are repeated but the first CP-DATA message from the UE is not acknowledged. The second CP-DATA message from the UE is acknowledged by a CP-ACK within a time TC1M.

j) Step g) is repeated. The SS is configured not to send CP-ACK. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 seconds after the last CP-DATA retransmission the SS initiates the channel release. The 15 seconds is the appropriate time to wait to verify that the UE does not send more than the maximum allowed (3) CP-DATA retransmissions (during PDP context in progress).

k) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. The PDP context is cleared by the SS with a disconnect message. (The PDP context deactivating is continued in parallel to the following exchange of messages related to SMS).

The SS sends a CP-DATA RPDU (SMS DELIVER TPDU) message. The information element of the CP-DATA message is RP-DATA.

The SS waits a maximum of 25 seconds for the CP-ACK message and then a maximum of 60 seconds for the CP-DATA message containing the RP-ACK RPDU.

The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release.

The SMS message store shall be cleared manually by the operator.

l) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. After the SS sends a PAGING TYPE 2,the PDP context shall be cleared from the UE. (The PDP context deactivating is continued in parallel to the following exchange of messages related to SMS).

The SS sends a CP-DATA message. The information element of the CP-DATA message is RP-DATA RPDU (SMS DELIVER TPDU).

The SS waits a maximum of 25 seconds for the CP-ACK message and then a maximum of 60 seconds for the CP-DATA message containing the RP-ACK RPDU.

The SS sends a CP-ACK to the UE within TC1M with no further CP-DATA messages and the SS initiates channel release.

The SMS message store shall be cleared manually by the operator.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		SERVICE REQUEST	

Step	Direction		Message	Comments
	UE	SS		
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
8		SS		Waits max 25 seconds for CP-ACK
9	-->		CP-ACK	
10		SS		Waits max 60 seconds for RP-ACK RPDU
11	-->		CP-DATA	Contains RP-ACK RPDU
12	<--		CP-ACK	
13	UE			There should be no further CP-DATA messages until the UE aborts the RR connection (disconnection of layer 2).
14	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
15			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
16	-->		SERVICE REQUEST	
17	<--		AUTHENTICATION AND CIPHERING REQUEST	
18	-->		AUTHENTICATION AND CIPHERING RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
22		SS		Waits max 25 seconds for CP-ACK
23	-->		CP-ACK	
24		SS		Waits max 60 seconds for RP-ACK RPDU
25	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
26		SS		First CP-DATA message not acknowledged by SS
27	-->		CP-DATA	Retransmitted CP-DATA from UE within twice TC1M, after step 25, contains RP-ACK RPDU
28	<--		CP-ACK	Second CP_DATA message is acknowledged
29	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection
30	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
31			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
32	-->		SERVICE REQUEST	
33	<--		AUTHENTICATION AND CIPHERING REQUEST	
34	-->		AUTHENTICATION AND CIPHERING RESPONSE	
35	<--		SECURITY MODE COMMAND	
36	-->		SECURITY MODE COMPLETE	
37	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
38		SS		Waits max 25 seconds for CP-ACK
39	-->		CP-ACK	
40		SS		Waits max 60 seconds for RP-ACK RPDU
41	-->		CP-DATA	Contains RP-ACK RPDU
42		SS		First CP-DATA message not acknowledged by SS
43			CP-DATA	Retransmitted CP-DATA from UE within twice TC1M after step 41, contains RP-ACK RPDU
44		SS		Retransmitted CP-DATA message not acknowledged by SS
45	UE			Depending upon the maximum number of CP-DATA retransmissions implemented, step 43 and 44 may be repeated.

Step	Direction		Message	Comments
	UE	SS		
46	<--		RRC CONNECTION RELEASE	RRC connecton is released after a duration of TC1M + 5 seconds after the last CP-DATA retransmission..
47	-->		RRC CONNECTION RELEASE COMPLETE	
48	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
49		SS		A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
50			PAGING TYPE 2	
51	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
52		SS		Waits max 25 seconds for CP-ACK
53	-->		CP-ACK	
54		SS		Waits max 60 seconds for RP-ACK RPDU
55	-->		CP-DATA	Contains RP-ACK RPDU
56	<--		CP-ACK	
57	<--		DEACTIVATE PDP CONTEXT REQUEST	Deactivates an existing PDP context.
58	-->		DEACTIVATE PDP CONTEXT ACCEPT	
59	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
60	UE			Clear the SMS message store
61		SS		A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
62	<--		PAGING TYPE 2	
63	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
64		SS		Waits max 25 seconds for CP-ACK
65	-->		CP-ACK	
66		SS		Waits max 60 seconds for RP-ACK RPDU
67	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
68		SS		First CP-DATA message not acknowledged by SS
69	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 67, contains RP-ACK RPDU
70	<--		CP-ACK	Second CP-DATA message is acknowledged
71	<--		DEACTIVATE PDP CONTEXT REQUEST	Deactivates an existing PDP context.
72	-->		DEACTIVATE PDP CONTEXT ACCEPT	
73	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection
74	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
75	UE			Clear the SMS message store
76		SS		A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
77	<--		PAGING TYPE 2	
78	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
79		SS		Waits max 25 seconds for CP-ACK
80	-->		CP-ACK	
81		SS		Waits max 60 seconds for RP-ACK RPDU
82	-->		CP-DATA	First CP-DATA from UE, contains RP-ACK RPDU
83		SS		First CP-DATA message not acknowledged by SS
84	-->		CP-DATA	Transmitted CP-DATA message within twice TC1M after step 82, contains RP-ACK RPDU
85		SS		Retransmitted CP-DATA message not acknowledged by SS
86	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 83-84 may be repeated. The maximum number of retransmissions may however not exceed three.
87	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1M + 15 seconds after the last CP-DATA retransmission.

Step	Direction		Message	Comments
	UE	SS		
88	-->		RRC CONNECTION RELEASE COMPLETE	
89	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
90	UE			Clear the SMS message store
91	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
92	<--		PAGING TYPE 2	Sent on DCCH associated with the DTCH
93	<--		DEACTIVATE PDP CONTEXT REQUEST	The PDP context is deactivated by the SS. The PDP context deactivating is continued in parallel to the following exchange of messages related to SMS.
94	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
95	SS			Waits max 25 seconds for CP-ACK
96	-->		CP-ACK	
97	SS			Waits max 60 seconds for RP-ACK RPDU
98	-->		CP-DATA	Contains RP-ACK RPDU
99	<--		CP-ACK	
100	UE			There should be no further CP-DATA messages until the UE aborts the RR connection.
101	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
102	UE			Clear the SMS message store
103	SS			A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
104	<--		PAGING TYPE 2	
105	-->		DEACTIVATE PDP CONTEXT REQUEST	The PDP context is deactivated by the UE. The PDP context deactivation is continued in parallel to the following
106	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
107	<--		DEACTIVATE PDP CONTEXT REQUEST COMPLETE	
108	-->		CP-ACK	shall be sent before 25 seconds after the start of step 106
109	SS			Waits max 60 seconds for RP-ACK RPDU
110	-->		CP-DATA	Contains RP-ACK RPDU
111	<--		CP-ACK	
112	UE			There should be no further CP-DATA messages until the UE aborts the RRC connection.
113	UE			The UE shall indicate that an SM has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed
114	UE			Clear the SMS message store

NOTE: Time values for SS wait time are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.

Specific Message Contents

SMS DELIVER TPDU

Information element	CommentValue
TP-UDL	160
TP-UD (140 octets)	text of message (160 characters)

NOTE: The 160 characters in TP-UD shall include at least one occurrence of each character in the default alphabet (see TS 23.038, subclause 6.2.1).

16.2.1.45 Test requirements

After step 7 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 seconds and CP-DATA containing RP-ACK within 60 seconds.

After step 25 UE shall retransmit CP-DATA containing RP-ACK within twice TC1M.

After step 30 UE shall indicate that an SM has arrived.

After step 43 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 48 UE shall indicate that an SM has arrived.

After step 51 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 seconds and CP-DATA containing RP-ACK within 60 seconds.

After step 67 UE shall retransmit CP-DATA containing RP-ACK within twice TC1M.

After step 73 UE shall indicate that an SM has arrived.

After step 78 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 89 UE shall indicate that an SM has arrived.

After step 94 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 seconds and CP-DATA containing RP-ACK within 60 seconds.

After step 106 UE shall receive SMS-DELIVER TPDU and send CP-ACK within 25 seconds and CP-DATA containing RP-ACK within 60 seconds.

16.2.2 SMS mobile originated

16.2.5.1 Definition

16.2.2.12 Conformance requirements

An active UE shall be able to submit short message TPDU (SMS-SUBMIT) at any time, independently of whether or not there is a PDP context in progress.

Reference

TS 23.040, subclause 3.1.

16.2.2.23 Test purpose

To verify that the UE is able to correctly send a short message where the SMS is provided for the point to point service. The test also verifies that the UE is capable of simultaneously receiving a network originated SM whilst sending a mobile originated SM.

16.2.2.34 Method of test

Initial Conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in "Idle, updated" state;
  - the SMS message storage shall be empty.

Related ICS/IXIT Statements

Support for Short message MO/PP.

Description of the basic procedures to display a mobile originated short message.

Support for state PDP-ACTIVE of session management.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Maximum length (characters) of a mobile originated short message.

Test procedure

a) The UE shall be set up to send a SM to the SS. The SS responds to RRC CONNECTION REQUEST by allocating a CCCH. The SS receives RRC CONNECTION SETUP COMPLETE on DCCH and then performs the authentication.

b) After receiving SECURITY MODE COMMAND UE shall send SECURITY COMMAND COMPLETE.

c) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 seconds for the CP-ACK message.

d) The SS sends a channel release message to the UE.

e) Steps a) and b) are repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 5 seconds after the last CP-DATA retransmission the SS initiates channel release. The 5 seconds is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions.

f) Steps a) and b) are repeated. On receipt of the CP-DATA from the UE the SS sends a CP-ERROR message within TC1M containing a "Network Failure" cause. Then the SS initiates channel release.

g) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. The UE is setup to send an SM to the SS. After the reception of the SERVICE REQUEST, the SS sends a SERVICE ACCEPT message.

h) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message within TC1M followed by a CP-DATA message containing the correct RP-ACK RPDU. The SS waits a maximum of 25 seconds for the CP-ACK message. Then the SS sends a channel release message to the UE.

i) Step g) is repeated. The SS is configured not to send the CP-ACK message. Then maximum 3 CP-DATA retransmissions may occur. After a duration of TC1M + 15 seconds after the last CP-DATA retransmission the SS initiates channel release. The 15 seconds is the appropriate time to wait to verify that the UE does not send more than the maximum CP-DATA retransmissions (during a PDP context in progress).

j) The SS is configured to receive a mobile originated SM. Steps a) and b) are repeated and, using the end of the CP-DATA message from the UE as a trigger, the SS sends a SM to the UE. In this case a new transaction identifier shall be used in the CP messages of SMS mobile terminated.

k) The UE is set up to send an SM to the SS. On receipt of the SERVICE REQUEST the SS sends a SERVICE REJECT message with the reject cause set to "GPRS services not allowed". After 5 seconds the SS initiates channel release.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION	BCCH
2	-->		RRC CONNECTION REQUEST	CCCH
3	<--		RRC CONNECTION SETUP	CCCH
4	-->		RRC CONNECTION SETUP COMPLETE	DCCH
5	-->		SERVICE REQUEST	
6	<--		AUTHENTICATION AND CIPHERING REQUEST	
7	-->		AUTHENTICATION AND CIPHERING RESPONSE	
8	<--		SECURITY MODE COMMAND	
9	-->		SECURITY MODE COMPLETE	
10	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11	<--		CP-ACK	Sent within TC1M after step 10
12	<--		CP-DATA	Contains RP-ACK RPDU
13		SS		Waits max 25 seconds for CP-ACK
14	-->		CP-ACK	
15	<--		RRC CONNECTION RELEASE	RRC connection is released.
16	-->		RRC CONNECTION RELEASE COMPLETE	
17	<--		SYSTEM INFORMATION	BCCH
18	-->		RRC CONNECTION REQUEST	CCCH
19	<--		RRC CONNECTION SETUP	CCCH
20	-->		RRC CONNECTION SETUP COMPLETE	DCCH
21	-->		SERVICE REQUEST	
22	<--		AUTHENTICATION AND CIPHERING REQUEST	
23	-->		AUTHENTICATION AND CIPHERING RESPONSE	
24	<--		SECURITY MODE COMMAND	
25	-->		SECURITY MODE COMPLETE	
26	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
27		SS		SS configured not to send CP-ACK
28	-->		CP-DATA	Retransmitted CP-DATA message within twice TC1M after step 26
29	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 28 may be repeated. The maximum number of retransmissions may however not exceed three.
30	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1M + 5 seconds after the last CP-DATA retransmission.
31	-->		RRC CONNECTION RELEASE COMPLETE	
32	<--		SYSTEM INFORMATION	BCCH
33	-->		RRC CONNECTION REQUEST	CCCH
34	<--		RRC CONNECTION SETUP	CCCH
35	-->		RRC CONNECTION SETUP COMPLETE	DCCH
36	-->		SERVICE REQUEST	
37	<--		AUTHENTICATION AND CIPHERING REQUEST	
38	-->		AUTHENTICATION AND CIPHERING RESPONSE	
39	<--		SECURITY MODE COMMAND	
40	-->		SECURITY MODE COMPLETE	
41	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
42	<--		CP-ERROR	Sent within TC1M containing "Network Failure" cause.
43	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
44	-->		RRC CONNECTION RELEASE COMPLETE	
45		SS		A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
46	UE			The UE is set up to send an SM

Step	Direction		Message	Comments
	UE	SS		
47	-->		SERVICE REQUEST	
48	<--		SERVICE ACCEPT	
49	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
50	<--		CP-ACK	Sent within TC1M after step 49
51	<--		CP-DATA	Contains RP-ACK RPDU
52		SS		Waits max 25 seconds for CP-ACK
53	-->		CP-ACK	
54	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released.
55	-->		RRC CONNECTION RELEASE CONPLETE	
56		SS		A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered.
57	-->		SERVICE REQUEST	
58	<--		SERVICE ACCEPT	
59	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
60		SS		SS configured not to send CP-ACK
61	-->		CP-DATA	Transmitted CP-DATA message within twice TC1M after step 59
62	UE			Depending on the maximum number of CP-DATA retransmissions implemented, step 61 may be repeated. The maximum number of retransmissions may however not exceed three.
63	<--		RRC CONNECTION RELEASE	RRC CONNECTION is released after a duration of TC1m + 15 seconds after the last CP-DATA retransmission.
64	-->		RRC CONNECTION RELEASE COMPLETE	
65	<--		SYSTEM INFORMATION	BCCH
66	-->		RRC CONNECTION REQUEST	CCCH
67	<--		RRC CONNECTION SETUP	CCCH
68	-->		RRC CONNECTION SETUP COMPLETE	DCCH
69	-->		SERVICE REQUEST	
70	<--		AUTHENTICATION AND CIPHERING REQUEST	
71	-->		AUTHENTICATION AND CIPHERING RESPONSE	
72	<--		SECURITY MODE COMMAND	
73	-->		SECURITY MODE COMPLETE	
74	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
75		SS		The SS sends an SM to the UE triggered by the end of the CP-DATA message from the UE
76	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU)
77	UE			The UE shall correctly receive the SM and indicate that a message has arrived. If the UE provides the functionality to display MT messages, it is checked that the correct message is displayed. In the MO case the UE shall send the CP-ACK message with transaction identifier assigned to this transfer. In the MT case the UE shall send a CP-ACK message and a CP-DATA message containing the RP-ACK RPDU. The transaction identifier shall be the same as chosen by the SS for the MT transfer.
78	-->		RRC CONNECTION REQUEST	initiate outgoing call
79	<--		RRC CONNECTION SETUP	
80	-->		RRC CONNECTION SETUP COMPLETE	
81	-->		SERVICE REQUEST	
82	<--		SERVICE REJECT	Reject cause set to " GPRS services not allowed "
83	<--		RRC CONNECTION RELEASE	Sent 5 seconds after SERVICE REJ
84	-->		RRC CONNECTION RELEASE COMPLETE	

NOTE: Time values for SS wait times are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.

Specific Message Contents

SMS SUBMIT TPDU

Information element	CommentValue
TP-UDL TP-UD (140 octets max)	as applicable maximum number of characters (text of message) as defined by the manufacturer (see ICS/IXIT)

16.2.2.45 Test requirements

After step 9 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 26 UE shall retransmit a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 45 UE shall send the RRC CONNECTION RELEASE COMPLETE.

After step 48 UE shall send a CP-DATA containing RP-data. The RP-DATA shall contain SMS SUBMIT TPDU.

After step 71 UE shall repeat CP-DATA retransmissions as many times as the decided maximum number.

After step 76 UE shall correctly receive the SM and indicate that a message has arrived.

After step 82 UE shall not send CP-DATA.

16.2.3 Test of memory full condition and memory available notification:

The Memory Available Notification provides a means for the UE to notify the network that it has memory available to receive one or more short messages. The SMS status field in the USIM contains status information on the "memory available" notification flag.

16.2.3.1 Definition

16.2.3.12 Conformance requirement

1. When a mobile terminated message is Class 2, the UE shall ensure that the message has been transferred to the SMS data field in the USIM before sending an acknowledgement to the SC. The UE shall return a protocol error message if the short message cannot be stored in the USIM and there is other short message storage available in the UE. If all the short message storage in the UE is already in use, the UE shall return "memory capability exceeded".

2. When the UE rejects a short message due to lack of available memory capability the need to transfer notification shall be stored in the USIM.

3. If the memory capability becomes available because memory is cleared, the value of the memory capability exceeded notification flag in the USIM is read. If the flag is set, the UE notifies the network that memory capability is now available. After a positive acknowledgement from the network, the ME unsets the memory capability exceeded notification flag in the USIM.

References

- TS 23.040, subclause 9.2.3.10, TS 23.038, clause 4.
- TS 23.040, subclause 10.3 (operation 14).
- TS 23.040, subclause 10.3 (operation 14).

16.2.3.23 Test purpose

1. To verify that the UE sends the correct acknowledgement when its memory in the USIM becomes full.

2. To verify that the UE sends the correct acknowledgement when its memory in the ME and the USIM becomes full, and sets the "memory exceeded" notification flag in the USIM.

3. To verify that the UE performs the "memory available" procedure when its message store becomes available for receiving short messages, and only at this moment.

16.2.3.~~3~~4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the SMS message storage shall be empty;
  - the UE shall be connected to the USIM simulator. The following shall be present in the USIM simulator:
    - EF_{SMS} with at least one record;
    - $EF_{SMSstatus}$, with SMS "Memory Cap. Exceed" notification flag set to "memory available";
    - Service no. 4 (SMS) in EF_{SST} set to allocated and activated.
  - for storing of Class 1 Short Messages the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

Whether SMS messages are stored in the USIM and/or the ME.

The value of timer TC1M.

Test procedure

a) step a) of subclause 16.2.5.3 (test of Class 2 Short Messages) is repeated until the UE sends a negative acknowledgement (RP-ERROR). The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

b) a Class 1 Short Message is sent to the UE.

c) step b) is repeated until the UE sends a negative acknowledgement (RP-ERROR). The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

d) a Short Message is sent to the UE with the DCS field of the SMS-DELIVER TPDU set to 0.

e) the SS prompts the operator to read a short message and to remove it from the message store of the UE.

f) the SS waits for a RRC CONNECTION REQUEST from the UE, and sends a RRC CONNECTION SETUP.

g) after the SS receives a RRC CONNECTION SETUP COMPLETE, the SS authenticates the UE and activates ciphering.

h) the SS answers to the RP-SMMA from the UE with a CP-DATA containing a RP-ACK RPDU.

i) after the UE has acknowledged the CP-DATA with a CP-ACK, the SS releases theRRC connection. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been unset on the USIM.

j) step e) is repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
8	SS			Waits max 25 seconds for CP-ACK
9	-->		CP-ACK	
10	SS			Waits max 60 seconds for RP-ACK RPDU
11	-->		CP-DATA	Contains RP-ACK RPDU
12	<--		CP-ACK	Within TC1M after step 11
13	<--		RRC CONNECTION RELEASE	RRC connection is released. Step 1-18 is repeated until UE sends a negative acknowledgement (RP-ERROR) in step 11. The RP-ERROR RPDU cause field shall be "Protocol error, unspecified" if there is message capability in the ME, or "Memory capability exceeded" if there is no message capability in the ME. If the total memory store of the UE is full, the ME shall set the "memory capability exceeded" notification flag on the USIM.
14	-->		RRC CONNECTION RELEASE COMPLETE	
15			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
16	-->		SERVICE REQUEST	
17	<--		AUTHENTICATION AND CIPHERING REQUEST	
18	-->		AUTHENTICATION AND CIPHERING RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 1 Short Message
22	SS			Waits max 25 seconds for CP-ACK
23	-->		CP-ACK	
24	SS			Waits max 60 seconds for RP-ACK RPDU
25	-->		CP-DATA	Shall contain RP-ACK RPDU if there is memory capability in the ME. If not it shall contain RP-ERROR RPDU which cause field shall be "memory capability exceeded". If the total memory store of the UE now becomes full at this step, the ME shall set the "memory cap. exceed" notification flag on the USIM.
26	<--		CP-ACK	Within TC1M after step 25
27	<--		RRC CONNECTION RELEASE	RRC connection is released. Step 19-36 is repeated until the UE sends an RP-ERROR. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.
28	-->		RRC CONNECTION RELEASE COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
29			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
30	-->		SERVICE REQUEST	
31	<--		AUTHENTICATION AND CIPHERING REQUEST	
32	-->		AUTHENTICATION AND CIPHERING RESPONSE	
33	<--		SECURITY MODE COMMAND	
34	-->		SECURITY MODE COMPLETE	
35	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) with TP-DCS set to 0
36		SS		Waits max 25 seconds for CP-ACK
37	-->		CP-ACK	
38		SS		Waits max 60 seconds for RP-ACK RPDU
39	-->		CP-DATA	Shall contain RP-ERROR RPDU with error cause "memory capability exceeded".
40	<--		CP-ACK	Within TC1M after step 39
41	<--		RRC CONNECTION RELEASE	RRC connection is released.
42	-->		RRC CONNECTION RELEASE COMPLETE	
43		SS		Prompts the operator to remove one of the short messages from the message store of the UE.
44	<--		SYSTEM INFORMATION	BCCH
45	-->		RRC CONNECTION REQUEST	CCCH
46	<--		RRC CONNECTION SETUP	CCCH
47	-->		RRC CONNECTION SETUP COMPLETE	DCCH
48	-->		SERVICE REQUEST	
49	<--		SERVICE ACCEPT	
50	-->		CP-DATA	Contains RP-SMMA RPDU
51	<--		CP-ACK	
52	<--		CP-DATA	Contains RP-ACK RPDU
53	-->		CP-ACK	Acknowledge of CP-DATA containing the RP-ACK RPDU. The ME shall unset the "memory capability exceeded" notification flag on the USIM.
54	<--		RRC CONNECTION RELEASE	RRC connection is released. The USIM simulator shall indicate if the "memory capability exceeded" notification flag has been unset on the USIM.
55	-->		RRC CONNECTION RELEASE COMPLETE	
56		SS		Prompts the operator to remove one of the short messages from the message store of the UE.
57		UE		Shall not attempt to send a RP-SMMA RPDU. This is verified by checking that the UE does not send a CHANNEL REQUEST message with the establishment cause "Other services which can be completed with an SDCCH"

NOTE: Time values for SS wait time are chosen sufficiently high to be sure that the UE has enough time to respond to the different messages.

Specific Message Contents

SMS-DELIVER TPDU in step 7

Information element	CommentValue
TP-DCS	default alphabet, class 2"11110010"B

SMS-DELIVER TPDU in step 21

TP-DCS	default alphabet, class 1 "11110001"B

SMS-DELIVER TPDU in step 35

TP-DCS	default alphabet "00000000"B

16.2.3.45 Test requirements

After UE sends a negative acknowledgement (RP-ERROR) in step 11, the USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

After UE sends a negative acknowledgement (RP-ERROR) in step 23, the USIM simulator shall indicate if the "memory capability exceeded" notification flag has been set on the USIM.

After step 53 the ME shall unset the "memory capability exceeded" notification flag on the USIM.

After step 56 UE shall not attempt to send a RP-SMMA RPDU.

16.2.4 Test of the status report capabilities and of SMS-COMMAND:

This test applies to UEs which support the status report capabilities.

16.2.4.1 Definition

16.2.4.12 Conformance requirement

The SMS offers the SC the capabilities of informing the UE of the status of a previously sent mobile originated short message. This is achieved by the SC returning a status report TPDU (SMS-STATUS-REPORT) to the originating UE.

SMS-COMMAND enables an UE to invoke an operation at the SC.

The UE shall increment TP-MR by 1 for each SMS-SUBMIT or SMS-COMMAND being submitted.

References

- TS 23.040, subclause 3.2.9.
- TS 23.040, subclause 9.2.3.6.

16.2.4.23 Test purpose

1) To verify that the UE is able to accept a SMS-STATUS-REPORT TPDU.
2) To verify that the UE is able to use the SMS-COMMAND functionality correctly and sends an SMS-COMMAND TPDU with the correct TP-Message-Reference.

16.2.4.34 Method of test

Initial conditions

- System Simulator:

- 1 cell, default parameters.

- User Equipment:

  - the UE shall be in the idle updated state.

Related ICS/IXIT Statements

Support of SMS MO/PP and MT/PP.

Test procedure

a) The UE is made to send a Mobile Originated short message setting TP-SRR as in steps a) to d) of test 16.2.2 (SMS Mobile originated).

b) The SS sends a CP-DATA message containing a RP-DATA RPDU itself containing an SMS-STATUS-REPORT TPDU.

c) The SS sends a RRC CONNECTION RELEASE message.

d) The UE is made to send an SMS-COMMAND message enquiring about the previously submitted short message.

e)

f) The SS acknowledges the CP-DATA message from the UE with a CP-ACK followed by a CP-DATA message containing an RP-ACK RPDU

g) After receiving the CP-ACK from the UE, the SS releases the RRC connection by using a RRC CONNECTION RELEASE message.

h) The UE is made to send an SMS-COMMAND message requiring to delete the previously submitted short message.

i) steps e) to g) are repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	<--		SYSTEM INFORMATION	BCCH
2	-->		RRC CONNECTION REQUEST	CCCH
3	<--		RRC CONNECTION SETUP	CCCH
4	-->		RRC CONNECTION SETUP COMPLETE	DCCH
5	-->		SERVICE REQUEST	
6	<--		AUTHENTICATION AND CIPHERING REQUEST	
7	-->		AUTHENTICATION AND CIPHERING RESPONSE	
8	<--		SECURITY MODE COMMAND	
9	-->		SECURITY MODE COMPLETE	
10	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU)
11	<--		CP-ACK	Sent within TC1M after step 10
12	<--		CP-DATA	Contains RP-ACK RPDU
13	SS			Waits max 25 seconds for CP-ACK
14	-->		CP-ACK	
15	<--		RRC CONNECTION RELEASE	RRC connection is released.
16	-->		RRC CONNECTION RELEASE COMPLETE	
17			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
18	-->		SERVICE REQUEST	
19	<--		AUTHENTICATION AND CIPHERING REQUEST	

Step	Direction		Message	Comments
	UE	SS		
20	-->		AUTHENTICATION AND CIPHERING RESPONSE	
21	<--		SECURITY MODE COMMAND	
22	-->		SECURITY MODE COMPLETE	
23	<--		CP-DATA	Contains RP-DATA RPDU (SMS-STATUS-REPORT TPDU)
24	-->		CP-ACK	
25	-->		CP-DATA	Contains RP-ACK RPDU
26	<--		CP-ACK	
27	<--		RRC CONNECTION RELEASE	
28	-->		RRC CONNECTION RELEASE COMPLETE	
29	UE			The UE is made to send an SMS-COMMAND message enquiring about the previously submitted SM
30	<--		SYSTEM INFORMATION	BCCH
31	-->		RRC CONNECTION REQUEST	CCCH
32	<--		RRC CONNECTION SETUP	CCCH
33	-->		RRC CONNECTION SETUP COMPLETE	DCCH
34	-->		SERVICE REQUEST	
35	<--		AUTHENTICATION AND CIPHERING REQUEST	
36	-->		AUTHENTICATION AND CIPHERING RESPONSE	
37	<--		SECURITY MODE COMMAND	
38	-->		SECURITY MODE COMPLETE	
39	-->		CP-DATA	Contains RP-DATA RPDU (SMS-COMMAND TPDU) which shall contain the correct TP-MR
40	<--		CP-ACK	
41	<--		CP-DATA	Contains RP-ACK RPDU
42	-->		CP-ACK	
43	<--		RRC CONNECTION RELEASE	
44	-->		RRC CONNECTION RELEASE COMPLETE	
45	UE		The UE is made to send an SMS-COMMAND	message requiring to delete the previously submitted SM.
46	-->		RRC CONNECTION REQUEST	CCCH
47	<--		RRC CONNECTION SETUP	CCCH
48	-->		RRC CONNECTION SETUP COMPLETE	DCCH
49	-->		SERVICE REQUEST	
50	<--		AUTHENTICATION AND CIPHERING REQUEST	
51	-->		AUTHENTICATION AND CIPHERING RESPONSE	
52	<--		SECURITY MODE COMMAND	
53	-->		SECURITY MODE COMPLETE	
54	-->		CP-DATA	Contains RP-DATA RPDU (SMS-COMMAND TPDU) which shall contain the correct TP-MR
55	<--		CP-ACK	
56	<--		CP-DATA	Contains RP-ACK RPDU
57	-->		CP-ACK	
58	<--		RRC CONNECTION RELEASE	
59	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS SUBMIT TPDU

Information element	Comment Value
TP-SRR	status report is requested "1"B

SMS-STATUS-REPORT TPDU (SS to UE in step 23):

Information element	Comment Value
TP-MR	same as previous SMS-SUBMIT
TP-MMS	no more messages "1"B
TP-SRQ	result of SMS-SUBMIT "0"B
TP-RA	same as the Destination address of the SMS-SUBMIT
TP-ST	SM received "00000000"B

first SMS-COMMAND TPDU (UE to SS in step 39)

Information element	Comment Value
TP-MR	TP-MR in previous SMS-SUBMIT plus "1"
TP-SRR	status report requested "1"B
TP-CT	Enquiry relating to previously submitted short message "00000000"B
TP-MN	not checked (TP-MR in previous SMS-SUBMIT)

second SMS-COMMAND TPDU (UE to SS in step 54)

Information element	Comment Value
TP-MR	TP-MR in previous SMS-COMMAND plus "1"
TP-CT	Delete previously submitted short message "00000010"B
TP-MN	not checked (TP-MR in previous SMS-SUBMIT)

16.2.4.45 Test requirements

After step 23 UE accept a SMS-STATUS-REPORT TPDU.

After step 39 UE shall send a SMS-COMMAND TPDU with the correct TP-Message-Reference.

After step 54 UE shall send a SMS-COMMAND TPDU with the correct TP-Message-Reference.

16.2.5 Test of message class 0 to 3

The tests under this subclause only apply to a UE capable of displaying short messages (see ICS/IXIT).

16.2.5.1 Short message class 0

16.2.5.1.1 Definition

16.2.5.1.12 Conformance requirement

When a mobile terminated message is class 0 and the UE has the capability of displaying short messages, the UE shall display the message immediately and send an acknowledgement to the SC when the message has successfully reached the UE irrespective of whether there is memory available in the USIM or ME. The message shall not be automatically stored in the USIM or ME.

References

TS 23.038, clause 4.

16.2.5.1.~~2~~3 Test purpose

To verify that the UE will accept and display but not store a class 0 message, and that it will accept and display a class 0 message if its message store is full.

NOTE: failure of this test in a UE could cause it to reject a class 0 message when its SMS memory becomes full. This could lead to unwanted repetitions between the UE and the service centre.

16.2.5.1.~~3~~4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS sends a class 0 message by using the method described in step a) of subclause 16.2.1 but with the TPDU described in this subclause.

b) The UE message store shall be filled (for example by using the method of subclause 16.2.3 test of the memory available notification) with the same SMS-DELIVER TPDU except that TP-DCS is set to class 1.

c) The SS sends a class 0 message as in step a).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 0 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The content of the short message shall be displayed by the ME. The UE shall not store the message. This can be checked by verifying that it is impossible to retrieve any short messages from the UE message store.
14	SS			The UE message store shall be filled (for example by using the method of 16.2.3) with Class 1 SMS-DELIVER TPDU.
15			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
16	-->		SERVICE REQUEST	
17	<--		AUTHENTICATION AND CIPHERING REQUEST	
18	-->		AUTHENTICATION AND CIPHERING RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 0 Short Message
22	-->		CP-ACK	
23	-->		CP-DATA	Contains RP-ACK RPDU.
24	<--		CP-ACK	
25	<--		RRC CONNECTION RELEASE	
26	-->		RRC CONNECTION RELEASE COMPLETE	
27	UE			The content of the short message shall be displayed by the ME.

Specific Message Contents

SMS-DELIVER TPDU (containing a class 0 message) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 0	"1111 0000"B

SMS-DELIVER TPDU (containing a class 1 message to fill the UE message store) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 1	"1111 0001"B

16.2.5.1.45 Test requirements

After step 7 UE shall accept and display but not store a class 0 message.

After step 21 UE shall accept and display a class 0 message.

16.2.5.2 Test of class 1 short messages

This test shall apply to UEs which support:

- storing of received Class 1 Short Messages; and
- displaying of stored Short Messages.

16.2.5.2.1 Definition

16.2.5.2.12 Conformance requirement

When a mobile terminated message is class 1, the UE shall send an acknowledgement to the SC when the message has successfully reached the UE and can be stored, either in the ME or in the USIM.

References

TS 23.038, clause 4.

16.2.5.2.23 Test purpose

This procedure verifies that the UE acts correctly on receiving a class 1 message, i.e. that it stores the message in the ME or USIM and sends an acknowledgement (at RP and CP-Layer).

16.2.5.2.34 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the UE message store shall be empty;
  - for storing of class 1 Short Messages, the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS delivers a Short Message of class 1 to the UE as specified in subclause 16.2.1, step a).

b) The Short Message is recalled (e.g. by means of the MMI).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 1 Short Message
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13	UE			The short message shall be recalled and displayed at the UE.

Specific Message Contents

SMS-DELIVER TPDU (containing a class 1 message) (SS to UE)

Information element	CommentValue	
TP-DCS	default alphabet, class 1	"1111 0001"B

16.2.5.2.~~4~~5 Test requirements

After step 7 UE shall store the message in the ME or USIM and send an acknowledgement.

16.2.5.3 Test of class 2 short messages

16.2.5.3.1 Definition

Class 2 Short Messages are defined as USIM specific, and the UE shall ensure that a message of this class is stored on the USIM.

16.2.5.3.2 Conformance requirement

When a mobile terminated message is Class 2, the UE shall ensure that the message has been correctly transferred to the SMS data field in the USIM before sending an acknowledgement to the SC. The UE shall return a "protocol error, unspecified" error message if the short message cannot be stored in the USIM and there is other short message storage available at the UE. If all the short message storage at the UE is already in use, the UE shall return "memory capacity exceeded".

Reference(s)

TS 23.040, subclause 9.2.3.10; TS 23.038, clause 4. TS 34.108,subclause6.11.3.2.27

16.2.5.3.3 Test purpose

This procedure verifies that the UE acts correctly on receiving a class 2 message, i.e. that it stores the message correctly in the USIM, and if this is not possible, returns a protocol error message, with the correct error cause, to the network.

There are 2 cases:

1) if the UE supports storing of short messages in the USIM and in the ME, and storage in the ME is not full, and the short message cannot be stored in the USIM, the error cause shall be "protocol error, unspecified";

2) if the UE supports storing of short messages in the USIM and not in the ME, and storage in the ME is not full, and the short message cannot be stored in the USIM, the error cause shall be "memory capacity exceeded".

NOTE: If the UE supports storing of short messages in the USIM and the ME, and storage in the ME is full, and the short message cannot be stored in the USIM, the error cause shall be "memory capacity exceeded". This case is not tested in this test.

16.2.5.3.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the ME message store shall be empty;
  - the ME shall be connected to the USIM simulator. The following shall be present in the USIM simulator:
    - EF_{SMS} with at least two free records and one full record;
    - $EF_{SMSstatus}$, with SMS "Memory Cap. Exceed" notification flag set to "memory available";
    - Service no. 4 (SMS) in EF_{SST} set to allocated and activated;
    - for storing of Class 1 Short Messages the UE shall be set up to store Short Messages in the ME memory (by way of MMI, as described in ICS/IXIT statement).

Related ICS/IXIT Statements

Support for Short message MT/PP.

The value of timer TC1M.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The SS delivers a Short Message of class 2 to the UE as specified in subclause 16.2.1, step b).

b) Following an attempt by the ME to store the short message in a free record of EF_{SMS} in the USIM, the USIM simulator returns the status response "OK" ("90 00").

c) Step a) is repeated.

d) Following an attempt by the ME to store the short message in a free record of EF_{SMS} in the USIM, the USIM simulator returns the status response "memory problem" ("92 40").

e) The USIM simulator indicates if an attempt was made in steps a) and c) to store the messages and if the messages are stored according to the requirement.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
8	-->		CP-ACK	
9	ME			The ME shall correctly store the short message in a free record of EFSMS in the USIM, i.e. -the ME shall use a free record - the first byte of the record shall indicate "message received by UE from network" - the TS-Service-Centre-Address shall be correctly stored - the TPDU shall be identical to that sent by the SS - bytes following the TPDU shall be set to "FF"
10	USIM			The USIM simulator returns the status response "OK" ("90 00"). The USIM simulator shall indicate if an attempt was made by the ME to store the short message in the USIM.
11	-->		CP-DATA	Contains RP-ACK RPDU.
12	<--		CP-ACK	
13	<--		RRC CONNECTION RELEASE	
14	-->		RRC CONNECTION RELEASE COMPLETE	
15			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
16	-->		SERVICE REQUEST	
17	<--		AUTHENTICATION AND CIPHERING REQUEST	
18	-->		AUTHENTICATION AND CIPHERING RESPONSE	
19	<--		SECURITY MODE COMMAND	
20	-->		SECURITY MODE COMPLETE	
21	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU), Class 2 Short Message
22	-->		CP-ACK	
23	ME			The ME shall attempt to store the short message in a free record of EFSMS in the USIM.
24	USIM			The USIM simulator returns the status response "memory problem" ("92 40"). The USIM simulator shall indicate if an attempt was made by the ME to store the short message in the USIM.
25	-->		CP-DATA	Contains RP-ERROR RPDU with error cause "protocol error, unspecified" if the UE supports storing of short messages in the ME, or error cause "memory capacity exceeded" if not.
26	<--		CP-ACK	
27	<--		RRC CONNECTION RELEASE	
28	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS-DELIVER TPDU (containing a class 2 message) (SS to UE)

Information element	Comment	Value
TP-DCS	default alphabet, class 2	"1111 0010"B

16.2.5.3.45 Test requirements

After step 10 UE shall confirm that the short message is stored in the USIM and send CP-DATA containing RP-ACK RPDU.

After step 24 UE shall confirm that the short message cannot be stored in the USIM and send CP-DATA containing RP-ERROR RPDU. If UE supports storing of short message in the ME, the error cause of RP-ERROR RPDU shall be "protocol error, unspecified", and if not the error cause of RP-ERROR RPDU shall be "memory capacity exceeded"

16.2.5.4 Test of class 3 short messages

For further study.

16.2.6 Test of short message type 0

For further study.

16.2.7 Test of the replace mechanism for SM type 1-7

16.2.7.1 Definition

16.2.7.2 Conformance requirement

On receipt of a short message, the UE shall check to see if the associated Protocol Identifier contains a Replace Short Message Type code. If such a code is present, then the UE will check the associated SC address (RP-OA) and originating address (TP-OA) and replace any existing stored message having the same Protocol Identifier code, SC address and originating address with the new short message.

Reference(s)

TS 23.040; subclause 9.2.3.9.

16.2.7.3 Test purpose

This procedure verifies the correct implementation of the replace mechanism for Replace Short Messages.

16.2.7.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;

- the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Description of the basic procedures to display a mobile terminated short message.

The value of timer TC1M.

Test procedure

a) Two different numbers n and m are drawn randomly between 1 and 7. Two different addresses for TP-Originating-Address (TPOA1 and TPOA2) are drawn. Two different addresses for RP-Originating-Address (RPOA1 and RPOA2) are drawn.

b) The SS delivers a short message to the UE as specified in subclause 16.2.1 step a). In the SMS-DELIVER TPDU, the TP-Protocol-Identifier parameter is "Replace Short Message Type n", the TP-Originating-Address is TPOA1, and the RP-Originating-Address is RPOA1.

c) Step b) is repeated but with a different TP-Originating-Address (TPOA2), and different contents of TP-User-Data in the SMS-DELIVER TPDU. The other parameters are the same as in step b).

d) Step c) is repeated but with RPOA2 in the RP-Originated-Address, and contents of TP-User-Data different from the former two messages. The other parameters are the same as in step c).

e) Step d) is repeated but with the TP-Protocol-Identifier equal to "Replace Short Message Type m", and contents of TP-User-Data different from the former three messages. The other parameters are the same as in step d).

f) Step e) is repeated but the contents of TP-User-Data are different from that used in step e).

g) The SS prompts the operator to display the Short Messages stored in the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA1 and RP-OA is RPOA1
8	-->		CP-ACK	
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	
13			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
14	-->		SERVICE REQUEST	
15	<--		AUTHENTICATION AND CIPHERING REQUEST	
16	-->		AUTHENTICATION AND CIPHERING RESPONSE	

Step	Direction		Message	Comments
	UE	SS		
17		<--	SECURITY MODE COMMAND	
18		-->	SECURITY MODE COMPLETE	
19		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA1, TP-UD different from step 7
20		-->	CP-ACK	
21		-->	CP-DATA	Contains RP-ACK RPDU.
22		<--	CP-ACK	
23		<--	RRC CONNECTION RELEASE	
24		-->	RRC CONNECTION RELEASE COMPLETE	
25			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
26		-->	SERVICE REQUEST	
27		<--	AUTHENTICATION AND CIPHERING REQUEST	
28		-->	AUTHENTICATION AND CIPHERING RESPONSE	
29		<--	SECURITY MODE COMMAND	
30		-->	SECURITY MODE COMPLETE	
31		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type n", TP-OA is TPOA2 and RP-OA is RPOA2, TP-UD different from step 7 and 19
32		-->	CP-ACK	
33		-->	CP-DATA	Contains RP-ACK RPDU.
34		<--	CP-ACK	
35		<--	RRC CONNECTION RELEASE	
36		-->	RRC CONNECTION RELEASE COMPLETE	
37			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
38		-->	SERVICE REQUEST	
39		<--	AUTHENTICATION AND CIPHERING REQUEST	
40		-->	AUTHENTICATION AND CIPHERING RESPONSE	
41		<--	SECURITY MODE COMMAND	
42		-->	SECURITY MODE COMPLETE	
43		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA2, TP-UD different from step 7, 19 and 31
44		-->	CP-ACK	
45		-->	CP-DATA	Contains RP-ACK RPDU.
46		<--	CP-ACK	
47		<--	RRC CONNECTION RELEASE	
48		-->	RRC CONNECTION RELEASE COMPLETE	
49			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
50		-->	SERVICE REQUEST	
51		<--	AUTHENTICATION AND CIPHERING REQUEST	
52		-->	AUTHENTICATION AND CIPHERING RESPONSE	
53		<--	SECURITY MODE COMMAND	
54		-->	SECURITY MODE COMPLETE	
55		<--	CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-PID is "Replace Short Message Type m", TP-OA is TPOA2 and RP-OA is RPOA2, TP-UD different from step 43

Step	Direction		Message	Comments
	UE	SS		
56	-->		CP-ACK	
57	-->		CP-DATA	Contains RP-ACK RPDU.
58	<--		CP-ACK	
59	<--		RRC CONNECTION RELEASE	
60	-->		RRC CONNECTION RELEASE COMPLETE	
61		SS		Prompts the operator to display the Short Messages stored in the UE. Only the Short Messages delivered in step 7, 19, 31 and 55 shall be retrievable and displayed

Specific Message Contents

SMS-DELIVER TPDU

Information element	CommentValue
TP-MMS	no more messages are waiting in SC "1"B
TP-PID	binary 01000xxx, xxx represents n resp. m (see test method description)

16.2.7.5 Test requirements

After step 60 only the Short Messages delivered in step 7, 19, 31 and 55 shall be retrieved and displayed.

16.2.8 Test of the reply path scheme

16.2.8.1 Definition

16.2.8.2 Conformance requirement

When a replying UE receives an original mobile terminated short message it has:

- originating SME = TP-Originating Address in the SMS-DELIVER TPDU;
- original SC = RP-Originating Address in the RP-MT-DATA.

When submitting the reply mobile originated short message, the replying UE should use parameters as follows:

- TP-Destination Address in SMS-SUBMIT TPDU = originating SME;
- RP-Destination Address in RP-MO-DATA = original SC.

Reference(s)

TS 23.040 Annex D.5,D.6

16.2.8.3 Test purpose

This procedure verifies that the UE is able to send a Reply Short Message back to the correct originating SME even if in the meantime it receives another Short Message.

16.2.8.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in the idle updated state;
  - the UE message store shall be empty.

Related ICS/IXIT Statements

Support for Short message MT/PP.

Support for Short message MO/PP.

Description of the basic procedures to display a mobile terminated short message.

Description of the basic procedures to send a mobile originated short message.

The value of timer TC1M.

Test procedure

a) The SS delivers a Short Message as specified in subclause 16.2.1, step b) with TP-Reply-Path set to 1.

b) Step a) is repeated but with:
   - different TP-Originating-Address for the originating SME;
   - different RP-Originating-Address for the original SC; and
   - different message contents TP-User-Data.

c) One of the two Short Messages is displayed (e.g. by means of the MMI) and the Reply Short Message is submitted (e.g. by means of the MMI).

d) step c) is repeated for the other Short Message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
2	-->		SERVICE REQUEST	
3	<--		AUTHENTICATION AND CIPHERING REQUEST	
4	-->		AUTHENTICATION AND CIPHERING RESPONSE	
5	<--		SECURITY MODE COMMAND	
6	-->		SECURITY MODE COMPLETE	
7	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-RP set to 1
8	-->		CP-ACK	Sent within TC1M after step 7
9	-->		CP-DATA	Contains RP-ACK RPDU.
10	<--		CP-ACK	
11	<--		RRC CONNECTION RELEASE	
12	-->		RRC CONNECTION RELEASE COMPLETE	

Step	Direction		Message	Comments
	UE	SS		
13			Mobile terminated establishment of ~~RRC connection~~ Radio Resource Connection	See TS34.108
14	-->		SERVICE REQUEST	
15	<--		AUTHENTICATION AND CIPHERING REQUEST	
16	-->		AUTHENTICATION AND CIPHERING RESPONSE	
17	<--		SECURITY MODE COMMAND	
18	-->		SECURITY MODE COMPLETE	
19	<--		CP-DATA	Contains RP-DATA RPDU (SMS DELIVER TPDU) TP-OA, RP-OA and TP-UD different from step 7
20	-->		CP-ACK	Sent within TC1M after step 7
21	-->		CP-DATA	Contains RP-ACK RPDU.
22	<--		CP-ACK	
23	<--		RRC CONNECTION RELEASE	
24	-->		RRC CONNECTION RELEASE COMPLETE	
25	UE			One of the two Short Messages is displayed and the Reply Short Message is submitted.
26	<--		SYSTEM INFORMATION	BCCH
27	-->		RRC CONNECTION REQUEST	CCCH
28	<--		RRC CONNECTION SETUP	CCCH
29	-->		RRC CONNECTION SETUP COMPLETE	DCCH
30	-->		SERVICE REQUEST	
31	<--		AUTHENTICATION AND CIPHERING REQUEST	
32	-->		AUTHENTICATION AND CIPHERING RESPONSE	
33	<--		SECURITY MODE COMMAND	
34	-->		SECURITY MODE COMPLETE	
35	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU) RP-DA = RP-OA corresponding to the message displayed TP-DA = TP-OA corresponding to the message displayed
36	<--		CP-ACK	Sent within TC1M after step 35
37	<--		CP-DATA	Contains RP-ACK RPDU
38	SS			Waits max 25 seconds for CP-ACK
39	-->		CP-ACK	
40	<--		RRC CONNECTION RELEASE	RRC connection is released.
41	-->		RRC CONNECTION RELEASE COMPLETE	
42	UE			The other Short Message is displayed and the Reply Short Message is submitted.
43	<--		SYSTEM INFORMATION	BCCH
44	-->		RRC CONNECTION REQUEST	CCCH
45	<--		RRC CONNECTION SETUP	CCCH
46	-->		RRC CONNECTION SETUP COMPLETE	DCCH
47	-->		SERVICE REQUEST	
48	<--		AUTHENTICATION AND CIPHERING REQUEST	
49	-->		AUTHENTICATION AND CIPHERING RESPONSE	
50	<--		SECURITY MODE COMMAND	
51	-->		SECURITY MODE COMPLETE	
52	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU) RP-DA = RP-OA corresponding to the Message displayed TP-DA = TP-OA corresponding to the message displayed
53	<--		CP-ACK	Sent within TC1M after step 52
54	<--		CP-DATA	Contains RP-ACK RPDU
55	SS			Waits max 25 seconds for CP-ACK
56	-->		CP-ACK	
57	<--		RRC CONNECTION RELEASE	RRC connection is released.
58	-->		RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents

SMS-DELIVER TPDU

Information element	Comment Value
TP-MMS	no more messages are waiting in SC "1"B
TP-RP	Reply Path exists "1"B

16.2.8.5 Test requirements

After step 34 UE shall send the Reply Short Message corresponding to one of two previously received short messages.

After step 51 UE shall send the Reply Short Message corresponding to the other of two previously received short messages.

16.2.9 Multiple SMS mobile originated

16.2.9.1 UE in idle mode

This test applies to UE supporting the ability of sending multiple short messages on the same RRC connection when there is no PDP context in progress.

16.2.9.1.1 Definition

16.2.9.1.~~1~~2 Conformance requirements

When the UE chooses to use the same RRC connection to send another short message or a memory available notification, then:

- the UE shall transmit a SERVICE REQUEST for the new CM connection before the final CP-ACK (e.g. the one that acknowledges the CP-DATA that carried the RP-ACK) for the old GMM context is transmitted;
- before transmission of the first CP-DATA on the new GMM context, the UE shall transmit the CP-ACK for the old GMM context;
- the Transaction Identifier used on the new GMM context shall be different to that used on the old GMM context; and
- the UE shall not initiate establishment of the new GMM context before the final CP-DATA (e.g. the one carrying the RP-ACK) has been received.

Reference

- TS 23.040; subclause 3.1.
- TS 24.011; subclause 5.4.

16.2.9.1.~~2~~3 Test purpose

To verify that the UE is able to correctly send multiple short messages on the same RRC connection when using an DCCH.

16.2.9.1.~~3~~4 Method of test

Initial conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in "Idle, updated" state;
  - the SMS message storage shall be empty.

Related ICS/IXIT statements

Support for multiple short message MO/PP on the same RRC connection.

Description of how to enter multiple SMS.

Description of the basic procedures to display a mobile originated short message.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) The UE shall be set up to send 3 short messages as multiple SM to the SS. The SS answers correctly to RRC CONNECTION REQUEST on CCCH and then performs the authentication.

b) After receiving SECURITY MODE COMMAND UE shall send SECURITY COMMAND COMPLETE.

c) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU. The Transaction Identifier used on this MM connection is 'x'.

d) The UE shall transmit a SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK (the one that acknowledges the CP-DATA that carried the RP-ACK before) for the old GMM context is transmitted. The UE shall not initiate establishment of the new GMM context before the final CP-DATA (i.e. the one carrying the RP-ACK for the first short message) has been received. Before transmission of the first CP-DATA on the new GMM context, the UE shall transmit the CP-ACK for the old GMM context. The Transaction Identifier used on the new GMM context shall be y, where y <> x (see procedure c)).

e) The SS waits a maximum of 5 seconds after receiving the SERVICE REQUEST for the CP-ACK message from the UE.

f) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU.

g) The UE shall transmit a SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK (the one that acknowledges the CP-DATA that carried the RP-ACK before) for the old GMM context is transmitted. Before transmission of the first CP-DATA on the new GMM context, the UE shall transmit the CP-ACK for the old GMM context. The Transaction Identifier used on the new GMM context shall be z, where z <> y (see procedure d)). The UE shall not initiate establishment of the new GMM context before the final CP-DATA (i.e. the one carrying the RP-ACK for the second short message) has been received.

h) The SS waits a maximum of 5 seconds after receiving the SERVICE REQUEST for the CP-ACK message from the UE.

i) The SS responds to the CP-DATA containing RP-DATA RPDU (SMS SUBMIT TPDU) from the UE with a CP-ACK message followed by a CP-DATA message containing the correct RP-ACK RPDU.

j) The SS waits a maximum of 5 seconds after sending CP-DATA for the CP-ACK message from the UE.

k) The SS sends a RRC CONNECTION RELEASE to the UE.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		<--	SYSTEM INFORMATION	BCCH
2		-->	RRC CONNECTION REQUEST	CCCH
3		<--	RRC CONNECTION SETUP	CCCH
4		-->	RRC CONNECTION SETUP COMPLETE	DCCH
5		-->	SERVICE REQUEST	
6		<--	AUTHENTICATION AND CIPHERING REQUEST	
7		-->	AUTHENTICATION AND CIPHERING RESPONSE	
8		<--	SECURITY MODE COMMAND	
9		-->	SECURITY MODE COMPLETE	
10		-->	CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 10, 11, 12 and 14 shall be x.
11		<--	CP-ACK	
12		<--	CP-DATA	Contains RP-ACK RPDU
13		-->	SERVICE REQUEST	
14		-->	CP-ACK	Shall be sent within 5 seconds of step 13
15		<--	SERVICE ACCEPT	
16		-->	CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 16, 17, 18 and 20 shall be y where y <> x (see step 10).
17		<--	CP-ACK	
18		<--	CP-DATA	Contains RP-ACK RPDU
19		-->	SERVICE REQUEST	
20		-->	CP-ACK	Shall be sent within 5 seconds of step 19
21		<--	SERVICE ACCEPT	
22		-->	CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 22, 23, 24 and 25 shall be z, where z <> y (see step 16).
23		<--	CP-ACK	
24		<--	CP-DATA	Contains RP-ACK RPDU
25		-->	CP-ACK	Shall be sent within 5 seconds of step 24
26		<--	RRC CONNECTION RELEASE	RRC connection is released.
27		-->	RRC CONNECTION RELEASE COMPLETE	

16.2.9.1.45 Test requirements

In step 12 the UE shall transmit a SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK for the old GMM context is transmitted.

In step 17 the UE shall transmit a SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK for the old GMM context is transmitted.

16.2.9.2 UE in active mode

This test applies to UE supporting the ability of sending concatenated multiple short messages when there is a PDP context in progress.

16.2.9.2.1 Definition

16.2.9.2.~~1~~2 Conformance requirements

When the UE chooses to use the same RRC connection to send another short message or a memory available notification, then:

- the UE shall transmit a SERVICE REQUEST for the new CM connection before the final CP-ACK (e.g. the one that acknowledges the CP-DATA that carried the RP-ACK) for the old GMM context is transmitted;
- before transmission of the first CP-DATA on the new GMM context, the UE shall transmit the CP-ACK for the old GMM context;
- the Transaction Identifier used on the new GMM context shall be different to that used on the old GMM context; and
- the UE shall not initiate establishment of the new GMM context before the final CP-DATA (e.g. the one carrying the RP-ACK) has been received.

Reference

- TS 23.040; subclause 3.1.
- TS 24.011; subclause 5.4.

16.2.9.2.~~2~~3 Test purpose

To verify that the UE is able to correctly concatenate multiple short messages on the same RRC connection when sent parallel to a PDP context.

16.2.9.2.~~3~~4 Method of test

Initial conditions

- System simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE shall be in "Idle, updated" state;
  - the SMS message storage shall be empty.

Related ICS/IXIT statements

Support for multiple short message MO/PP on the same RRC connection.

Description of how to enter multiple SMS.

Description of the basic procedures to display a mobile originated short message.

Support for state PDP-ACTIVATE of session management.

Whether SMS messages are stored in the USIM and/or the ME.

Test procedure

a) A PDP context is established with the SS and the state PDP-ACTIVE of session management is entered. The UE is set up to send 3 short messages as multiple SM to the SS. After the reception of the SERVICE REQUEST, the SS sends a SERVICE ACCEPT message. b) Steps c) to k) of the test procedure in subclause 16.2.9.1.~~3~~4 are repeated.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		A PDP context is established and the state PDP-ACTIVE of session management is entered.
2	UE			The UE is set up to send 3 short messages as multiple SM
3	-->		SERVICE REQUEST	
4	<--		SERVICE ACCEPT	
5	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 5, 6, 7 and 9 shall be x.
6	<--		CP-ACK	
7	<--		CP-DATA	Contains RP-ACK RPDU
8	-->		SERVICE REQUEST	
9	-->		CP-ACK	Shall be sent within 5 seconds of step 8
10	<--		SERVICE ACCEPT	
11	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 11, 12, 13 and 15 shall be y where y <> x (see step 5).
12	<--		CP-ACK	
13	<--		CP-DATA	Contains RP-ACK RPDU
14	-->		SERVICE REQUEST	
15	-->		CP-ACK	Shall be sent within 5 seconds of step 14
16	<--		SERVICE ACCEPT	
17	-->		CP-DATA	Contains RP-DATA RPDU (SMS SUBMIT TPDU). The Transaction Identifier used in steps 17, 18, 19 and 20 shall be z, where z <> y (see step 11).
18	<--		CP-ACK	
19	<--		CP-DATA	Contains RP-ACK RPDU
20	-->		CP-ACK	Shall be sent within 5 seconds of step 19
21	<--		RRC CONNECTION RELEASE	RRC connection is released.
22	-->		RRC CONNECTION RELEASE COMPLETE	

16.2.9.2.~~4~~5 Test requirements

In step 7 the UE shall transmit a SERVICE REQUEST for the new CM connection (for the second short message) before the final CP-ACK for the old GMM context is transmitted.

In step 13 the UE shall transmit a SERVICE REQUEST for the new CM connection (for the third short message) before the final CP-ACK for the old GMM context is transmitted.

16.3 Short message service cell broadcast

16.3.1 Definition

16.3.~~1~~2 Conformance requirements

In idle mode, the UE listens to the BCCH and to the paging sub-channel for the paging group it belongs to. The UE is required to receive and analyse the paging messages and immediate assignment messages sent on the paging subchannel corresponding to its paging subgroup.

Reference

- TS 23.041;clause 8.
- TS 25.324; clause 11

16.3.~~2~~3 Test purpose

This test verifies that an UE supporting SMS-CB is able to receive SMS-CB messages.

16.3.~~3~~4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters;
  - the SS provides a BCCH/CCCH to support the UE in idle mode;
  - periodic location updating is disabled.
- User Equipment:
  - the UE shall be in the idle updated state.

Related ICS/IXIT Statements

Support for short message transmission cell broadcast.

Description of the basic procedures to display a cell broadcasted short message.

Test procedure

Three Cell Broadcast (CB) messages are sent by the SS on the CBCH with message codes 0,1,1 in serial number fields respectively.

The UE shall respond to the page.

Expected sequence

Since the SMS-CB messages are sent continuously, a table is not applicable in this test.

Specific Message Contents:

Cell broadcast test message content

Information element	CommentValue
Message Type	CBS Message "1"B (see TS 25.324, subclause 11.1)
Message ID	
Serial Number	
- Geographical scope	"00"B
- Message code	see test procedure "0000000000"B or "0000000001"B
- Update number	as applicable
Data Coding Scheme	Default alphabet, English "00000001"B
CB Data	max 1246 octets

16.3.4~~5~~ Test requirements

In consequence of test the UE shall ignore third message and store two messages.

16.4 Default message contents:

16.4.1 Default message contents for SM-CP protocol

CP-DATA

Protocol Discriminator	SMS messages ("1001"B)
Transaction Identifier	
TIO	any value from the set {0, ..., 6}
TI flag	0
Message type	00000001
CP-User data	
~~CP-USER Data IEI~~	~~"0000001"B~~
length indicator	
RPDU	max 248 octets

CP-ACK

Protocol Discriminator	SMS messages ("1001"B)
Transaction Identifier	
TIO	
TI flag	
Message type	00000100

CP-ERROR

Protocol Discriminator	SMS messages ("1001"B)
Transaction Identifier	
TIO	
TI flag	
Message type	00010000
CP-Cause	
~~CP-Cause IEI~~	~~"0000010"B~~
Cause value	see TS 24.011, subclause 8.1.4.2

16.4.2 Default message contents for SM-RP protocol

RP-DATA

Information element	Comment Value
RP-Message Type	"001"B (SS->UE) or "000"B(UE->SS)
RP-Message Reference	see TS 24.011, subclause 8.2.3
RP-Originator Address	see TS 24.011, subclause 8.2.5.1
RP-Destination Address	see TS 24.011, subclause 8.2.5.2
RP-User Data	see TS 24.011, subclause 8.2.5.3
~~RP-User Data IEI~~	~~"1000001"B~~
Length indicator	
TP-DATA	max 23~~3~~2 octets

RP-ACK

Information element	Comment Value
RP-Message Type	"010"B (UE->SS) or "011"B(SS->UE)
RP-Message Reference	see TS 24.011, subclause 8.2.3
RP-User Data	see TS 24.011, subclause 8.2.5.3 : optional, may be present or not
RP-User Data IEI	"1000001"B
Length indicator	
TP-Data	max 232 octets

RP-ERROR

Information element	Comment Value
RP-Message Type	"100"B (UE->SS) or "101"B(SS->UE)
RP-Message Reference	see TS 24.011, subclause 8.2.3
RP-Cause	see TS 24.011, subclause 8.2.5.4
RP-User Data	see TS 24.011, subclause 8.2.5.3 : optional, may be present or not
RP-User Data IEI	"1000001"B
Length indicator	
TP-Data	max 23~~3~~2 octets

RP-SMMA UE->SS)

Information element	Comment Value
RP-Message Type	"110"B (UE->SS)
RP-Message Reference	see TS 24.011, subclause 8.2.3

16.4.3 Default message contents for SM-TP protocol

SMS DELIVER TPDU

Information element	Comment Value
TP-MTI	SMS DELIVER "00"B
TP-MMS	more messages are waiting in SC "0"B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM "0"B
TP-SRI	no status report returned "0"B
TP-OA	an international number coded E.164
TP-PID	default"00000000"B
TP-DCS	default alphabet "00000000"B
TP-SCTS	any legal value (cf. TS 23.040)
TP-UDL	
TP-UD	max 140 octets

SMS SUBMIT TPDU

Information element	CommentValue
TP-MTI	SMS SUBMIT"01"B
TP-RD	SC shall accept same SMS-SUBMIT “0”B
TP-VPF	TP-VP field not present “00”B
TP-RP	no reply path "0"B
TP-UDHI	TP-UD contains only the SM “00”B
TP-SRR	no request of status report “00”B
TP-MR	
TP-DA	an international number coded E164
TP-PID	default"00000000"B
TP-DCS	default alphabet "00000000"B
TP-VP	
TP-UDL	
TP-UD	max 140 octets

SMS COMMAND TPDU

Information element	Comment Value
TP-MTI	SMS-COMMAND"10"B
TP-UDHI	TP-UD contains only the SM “00”B
TP-SRR	status report not requested "0"B
TP-MR	
TP-PID	default"00000000"B
TP-CT	
TP-MN	
TP-DA	an international number coded E164
TP-CDL	
TP-CD	

SMS STATUS REPORT TPDU

Information element	Comment Value
TP-MTI	SMS-STATUS-REPORT“10”B
TP-MMS	no more messages "1"B
TP-SRQ	result of SMS-SUBMIT "0"B
TP-MR	
TP-RA	the destination address of the previous SM MO
TP-SCTS	any legal value (cf. TS 23.040, subclause 9.2.3.11)
TP-DT	any legal value (cf. TS 23.040, subclause 9.2.3.13)
TP-ST	see TS 23.040, subclause 9.2.3.15

3GPP TSG T1 Meeting #9 ***Document T1-000310***

Redondo Beach, Ca, USA, 16-17 November 2000

e.g. for 3GPP use the format TP-99xxx

or for SMG, use the format P-99-xxx

3GPP TSG-T1/SIG Meeting #14 ***T1S000270r2***
Redondo Beach, USA, 13-15 November 2000

CR-Form-v3

CHANGE REQUEST

⌘ **34.123-1** **CR** **047** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	CR to 34.123-1 Correction to MM section
Source:	⌘	FUJITSU LIMITED
Work item code:	⌘	***Date:*** ⌘ 14/11/2000
Category:	⌘ **D**	***Release:*** ⌘ R99

Use one of the following categories:
F *(essential correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	Some editorial mistakes have been corrected
Summary of change:	⌘	There are still remain the GSM terminology and miss discription in the section 9 MM test case. This CR correct these editorial mistakes. Main part of changes are as follows; 1) Correct message name description from lower case to upper case. (ex. Paging Response message -> PAGING RESPONSE message) 2) Mobile terminated establishment of RRC -> Mobile terminated establishment of Radio Resource Connection 3) Remove "Forseen final state of the UE" description from all test cases.
Consequences if not approved:	⌘	

Clauses affected:	⌘	9
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at:
http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9 Elementary procedures of mobility management

The tests are based on TS 24.008.

In this clause, when the expected sequence require that "a mobile originated CM connection is attempted", it shall be for a service other than emergency call.

In this clause, a initial CM message is either a SETUP message, a REGISTER message or a CP-DATA message (in that case the acknowledged mode of operation on SAPI 3 will have be established and this message will be sent on SAPI 3).

9.1 TMSI reallocation

The intention of the TMSI Reallocation procedure is to assign a new temporary identity for the UE. If the message is not understood by the UE, the network could not establish a link to the UE. As this is a common MM procedure, it can be initiated at any time.

9.1.1 Conformance requirement

1) A ~~User Equipment~~UE shall acknowledge a new TMSI when explicitly allocated during a location updating procedure or an incoming call.

2) The TMSI shall be updated on the ~~SIM~~USIM when the ~~User Equipment~~UE is correctly deactivated in accordance with the manufacturer's instructions.

3) A ~~User Equipment~~UE shall answer paging with this TMSI and includes it in the ~~Paging Response~~PAGING RESPONSE message.

Reference(s)

TS 24.008 Clause 4.3.1.

9.1.2 Test purpose

To verify that the UE is able to receive and acknowledge a new TMSI by means of an explicit TMSI reallocation procedure.

To verify that the UE has stored the TMSI in a non-volatile memory.

The implicit reallocation procedure is tested in clause 9.4.1.

9.1.3 Method of test

Initial conditions

- System Simulator:
  - two cells A and B, belonging to different location areas a and b, default parameters.
- User Equipment:
  - the UE has valid TMSI (= TMSI1), CKSN, ~~Kc~~CK, IK. It is "idle updated" on cell B.

Related ICS/IXIT statement(s)

Switch off button Yes/No.

Way to bring the UE into service.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI (= TMSI1), CKSN, Kc. It is "idle updated" on cell A.~~

Test Procedure

The UE is paged in cell B and the security mode is established. An explicit TMSI reallocation procedure is performed. The RRC CONNECTION is released. The UE is switched off and then its power supply is interrupted for 10 seconds. The power supply is resumed and then the UE is switched on and allowed sufficient time to guarantee that the UE is in service (listening to its paging subchannel). The system simulator then checks, by paging, whether the UE has stored the received TMSI.

The UE is made to select cell A. A normal location updating procedure is performed in cell A. An explicit TMSI reallocation procedure is performed and then the location updating procedure is accepted by the SS. The system simulator checks, by paging, whether the UE has stored the allocated TMSI.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell B.
1		←		"Mobile identity" = TMSI1.
			~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	Establishment Cause: Answer to paging.
		→		
		←		
2		→	PAGING RESPONSE	
3		←	SECURITY MODE COMMAND	The SS starts deciphering.
4		→	SECURITY MODE COMPLETE	The SS starts enciphering.
5		←	TMSI REALLOCATION COMMAND	"Mobile identity" = new TMSI (TMSI2) different from TMSI 1.
6		→	TMSI REALLOCATION COMPLETE	
7		←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
8	UE			If possible (see ICS), the UE is switched off.
8a	UE			The power supply is interrupted for 10 seconds.
9	UE			The UE is switched on.
10	SS			The SS waits an amount of time which is enough to guarantee that the UE is in service (listening to its paging subchannel).
11		←		"Mobile identity" = TMSI2.
			~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	
		→		Establishment Cause: Answer to paging.
		←		
12		→	PAGING RESPONSE	"Mobile identity" =TMSI2.
13		←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The following messages are sent and shall be received on cell A
14	SS			The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable as defined in subclause 6.6.2.
15		→	RRC CONNECTION REQUEST	Establishment cause: Location updating.
16		←	RRC CONNECTION SETUP	
17		→	LOCATION UPDATING REQUEST	location updating type = normal, "ciphering key sequence number" = CKSN, LAI = b, "mobile identity" = TMSI2.
18		←	TMSI REALLOCATION COMMAND	TMSI = TMSI1.
19		→	TMSI REALLOCATION COMPLETE	
20		←	LOCATION UPDATING ACCEPT	This message does not contain the optional Mobile Identity field.
21		←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is "idle updated" on cell A.
22		←		"Mobile identity" IE contains the new TMSI (= TMSI1).
			~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	
		→		"Establishment cause": Answer to paging.
		←		
23		→	PAGING RESPONSE	"Mobile identity" IE contains the new TMSI (= TMSI1).

24	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.2 Authentication

The purpose of this procedure is to verify the user identity. A correct response is essential to guarantee the establishment of the connection. If not, the connection will drop.

The SS shall be able to handle vectors of AUTN, RAND, CK, IK, AUTS and XRES in a similar way as the MSC/BSS entities. The SS shall incorporate a test algorithm for generating RES and CK, IK from RAND, AUTN and IK which operates as described in annex 4.

9.2.1 Authentication accepted

9.2.1.1 Definition

9.2.1.2 Conformance requirement

1) A UE shall correctly respond to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION RESPONSE message with the RES information field set to the same value as the one produced by the authentication algorithm in the network.

2) A UE shall indicate in a PAGING RESPONSE message the ciphering key sequence number which was allocated to it through the authentication procedure.

Reference(s)

TS 24.008 Clause 4.3.2a.

9.2.1.3 Test purpose

1) To check that a UE correctly responds to an AUTHENTICATION REQUEST message by sending an AUTHENTICATION RESPONSE message with the SRES information field set to the same value as the one produced by the authentication algorithm in the network.

2) To check that a UE indicates in a PAGING RESPONSE message the ciphering key sequence number which was allocated to it through the authentication procedure.

9.2.1.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has valid TMSI, CKSN (CKSN1), CK, IK. It is "idle updated" on the cell.

Related ICS/IXIT statement(s)

None.

~~Foreseen final state of the UE~~

~~The UE has valid TMSI, CKSN and CK, IK. It is "idle updated" on the cell.~~

Test Procedure

The UE is paged. After the UE has sent a PAGING RESPONSE message to the SS, the SS initiates an authentication procedure and checks the value RES sent by the UE in the AUTHENTICATION RESPONSE message. The RRC CONNECTION is released. The UE is paged and the SS checks the value of the ciphering key sequence number sent by the UE in the PAGING RESPONSE message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resouorce Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Answer to paging.
2	→		PAGING RESPONSE	CKSN = CKSN1
3	←		AUTHENTICATION REQUEST	The SS initiates authentication with CKSN2 different from CKSN1.
4	→		AUTHENTICATION RESPONSE	"Auth. parameter RES" IE shall be bit exact with the value as produced by the authentication algorithm.
5	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
6			Mobile terminated establishment of Radio Resouorce Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Answer to paging.
7	→		PAGING RESPONSE	"Ciphering key sequence number" shall be the same as the value that was sent in the last AUTHENTICATION REQUEST message (= CKSN2).
8	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.2.1.5 Test requirement

FFS

9.2.2 Authentication rejected by the network

9.2.2.1 Definition

9.2.2.2 Conformance requirement

1) After reception of an ~~Authentication Reject~~AUTHENTICATION REJECT message the UE shall:

1.1 not perform normal location updating;

1.2 not perform periodic location updating;

1.3 not respond to paging with TMSI;

1.4 reject any request from CM entity for MM connection except for emergency call;

1.5 not perform IMSI detach if deactivated.

2) After reception of an ~~Authentication Reject~~AUTHENTICATION REJECT message the UE, if it supports speech, shall accept a request for an emergency call by sending a RRC CONNECTION REQUEST message with the establishment cause set to "emergency call" and include an IMEI as mobile identity in the CM SERVICE REQUEST message.

3) After reception of an ~~Authentication Reject~~AUTHENTICATION REJECT message the UE shall delete the stored LAI, CKSN and TMSI.

Reference(s)

TS 24.008 Clause 4.3.2.5.

9.2.2.3 Test purpose

1) To check that ,after reception of an ~~Authentication Reject~~AUTHENTICATION REJECT message, the UE:

   1.1 does not perform normal location updating;

   1.2 does not perform periodic location updating;

   1.3 does not respond to paging with TMSI;

   1.4 rejects any request from CM entity for MM connection except for emergency call;

   1.5 does not perform IMSI detach if deactivated.

2) To check that, after reception of an ~~Authentication Reject~~AUTHENTICATION REJECT message the UE, if it supports speech, accepts a request for an emergency call by sending a RRC CONNECTION REQUEST message with the establishment cause set to "emergency call" and includes an IMEI as mobile identity in the CM SERVICE REQUEST message.

3) To check that, after reception of an ~~Authentication Reject~~AUTHENTICATION REJECT message and after having been deactivated and reactivated, the UE performs location updating using its IMSI as mobile identity and indicates deleted LAI and CKSN.

9.2.2.4 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B, belonging to different location areas a and b;
  - IMSI attach/detach is allowed in both cells;
  - the T3212 time-out value is 1/10 hour in both cells.
- User Equipment:
  - the UE has valid TMSI, CKSN (CKSN2) , CK and IK. It is "idle updated" on cell B.

Related ICS/IXIT statement(s)

USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

~~Foreseen final state of the UE~~

~~The UE has valid TMSI, CKSN (CKSN1), CK and IK. It is "idle updated" on cell A.~~

Test procedure

The SS rejects an authentication. The RRC CONNECTION is released. The SS checks that the UE has entered the state MM IDLE substate NO IMSI, i.e. does not perform normal location updating, does not perform periodic updating, does not respond to paging, rejects any requests from CM entities except emergency calls and does not perform IMSI detach if USIM detachment is performed, switch off is performed, or the power is removed, depending on the UE (see ICS/IXIT).

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
The following messages are sent and shall be received on cell B				
1			Mobile terminated establishment of Radio Resouorce Connection	See TS 34.108 clause 7.1.2 Establishment Cause: Answer to paging.
2	→		PAGING RESPONSE	"Ciphering key sequence number" shall be the same as the value that was sent in the last AUTHENTICATION REQUEST message (= CKSN2).
3	←		AUTHENTICATION REQUEST	
4	→		AUTHENTICATION RESPONSE	
5	←		AUTHENTICATION REJECT	
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
9			Mobile terminated establishment of Radio Resouorce Connection	See TS 34.108 clause 7.1.2 The UE is paged in cell B. "Mobile identity" IE contains TMSI.
10	UE			The UE shall ignore this message. This is verified during 3 seconds.
11	SS			The SS waits for at least for 15 s.
12	UE			A MO CM connection is attempted.
13	UE			The UE shall not initiate an RRC connection establishment on cell A or cell B. This is checked during 3 seconds.
14	UE			If the UE supports speech (see ICS), an emergency call is attempted.
15	→		RRC CONNECTION REQUEST	"Establishment cause": Emergency call.
16	←		RRC CONNECTION SETUP	
17	→		RRC CONNECTION COMLETE	
18	→		CM SERVICE REQUEST	"CM service type": Emergency call establishment. "Mobile identity": type of identity is set to IMEI.
19	←		CM SERVICE ACCEPT	
20	→		EMERGENCY SETUP	
21	←		RELEASE COMPLETE	"Cause" = unassigned number.
22	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
The following messages are sent and shall be received on cell A.				
23	SS			The RF levels are changed to make the UE reselect the cell A.
24	UE			The UE performs cell reselection according to procedure as specified in (this however is not checked until step 29). The UE shall not initiate an RRC connection establishment on cell A or on cell B.
25	SS			The SS waits at least 7 minutes for a possible periodic updating.
26	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B.
27	UE			If possible (see ICS) USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
28	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 seconds.
29	UE			Depending on what has been performed in step 26 the UE is brought back to operation.
30	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
31	←		RRC CONNECTION SETUP	
32	→		RRC CONNECTION COMPLETE	
33	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "Mobile Identity" = IMSI, "LAI" = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE).
34	←		AUTHENTICATION REQUEST	"CKSN" = CKSN1.
35	→		AUTHENTICATION RESPONSE	
36	←		LOCATION UPDATING ACCEPT	"Mobile Identity" = TMSI.

37	→	TMSI REALLOCATION COMPLETE	
38	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.2.2.5 Test requirement

FFS

9.2.3 Authentication rejected by the UE (MAC code failure)

9.2.3.1 Definition

Following a UMTS authentication challenge, the MS may reject the core network, on the grounds of an incorrect AUTN parameter (see TS 33.102).

If the MS considers the MAC code (supplied by the core network in the AUTN parameter) to be invalid, it shall send an AUTHENTICATION FAILURE message to the network, with the ~~failure~~reject ~~-~~cause 'MAC failure' ~~(see 33.102)~~.

9.2.3.2 Conformance requirement

A UE shall correctly respond to an AUTHENTICATION REQUEST message with the failure cause 'MAC failure' by sending an AUTHENTICATION FAILURE message.

Reference(s)

TS 24.008 Clause 4.3.2.5.1, 4.3.2.6 (c)

9.2.3.3 Test purpose

To check that a UE shall correctly respond to an AUTHENTICATION REQUEST message with the failure cause 'MAC failure' by sending an AUTHENTICATION FAILURE message.

9.2.3.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has valid TMSI, CKSN (CKSN1), CK, IK. It is "idle updated" on the cell.

Related ICS/IXIT statement(s)

None.

Test procedure

The UE rejects an authentication. The AUTHENTICATION FAILURE is sended by UE. Upon receipt of the AUTHENTICATION FAILURE message, the network stops the timer T3260. ~~In MAC failure case, the procedural behaviour is ffs.~~

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resouorce Connection	See TS 34.108 clause 7.1.2
2	→		PAGING RESPONSE	CKSN = CKSN1
3	←		AUTHENTICATION REQUEST	with the failure cause 'MAC code failure'
4	→		AUTHENTICATION FAILURE	with reject cause "MAC failure"
5	←		IDENTITY REQUEST	
6	→		IDENTITY RESPONSE(IMSI)	
7	←		AUTHENTICATION REQUEST	with the failure cause 'MAC code failure'
8	→		AUTHENTICATION FAILURE	with reject cause "MAC failure"

Specific message contents

None.

9.2.3.5 Test requirement

FFS

9.2.4 Authentication rejected by the UE (SQN failure)

9.2.4.1 Definition

Following a UMTS authentication challenge, the MS may reject the core network, on the grounds of an incorrect AUTN parameter (see TS 33.102).

If the MS considers the SQN (supplied by the core network in the AUTN parameter) to be out of range, it shall send an AUTHENTICATION FAILURE message to the network, with the ~~failure~~ reject cause 'Synch failure' and ~~parameter(~~a re-synchronization token AUTS~~)~~ provided by the USIM (see TS 33.102)

9.2.4.2 Conformance requirement

A UE shall correctly respond to an AUTHENTICATION REQUEST message with the failure cause 'Synch failure' and parameter(AUTS) provided by the USIM (see TS 33.102) by sending an AUTHENTICATION FAILURE message.

Reference(s)

TS 24.008 Clause 4.3.2.5.1, 4.3.2.6 (d)

9.2.4.3 Test purpose

To check that a UE shall correctly respond to an AUTHENTICATION REQUEST message with the failure cause 'Synch failure' and parameter(AUTS) provided by the USIM (see TS 33.102) by sending an AUTHENTICATION FAILURE message.

9.2.4.4 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has valid TMSI, CKSN (CKSN1), CK, IK. It is "idle updated" on the cell.

Related ICS/IXIT statement(s)

None.

Test procedure

The UE rejects an authentication. The AUTHENTICATION FAILURE is sended by UE.

Upon receipt of the AUTHENTICATION FAILURE message, the network stops the timer T3260. In Synch failure case, the core network may renegotiate with the HLR/AuC and provide the MS with new authentication parameters.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1			Mobile terminated establishment of Radio Resouorce Connection	See TS 34.108 clause 7.1.2
2	→		PAGING RESPONSE	CKSN = CKSN1
3	←		AUTHENTICATION REQUEST	with the failure cause 'Synch failure'
4	→		AUTHENTICATION FAILURE	*"Auth. parameter RES" IE shall be bit exact with the value as produced by the authentication algorithm.*
5	←		AUTHENTICATION REQUEST	with the failure cause 'Synch failure'
6	→		AUTHENTICATION FAILURE	*"Auth. parameter RES" IE shall be bit exact with the value as produced by the authentication algorithm.*

Specific message contents

None.

9.2.4.5 Test requirement

FFS

9.3 Identification

The purpose of this procedure is to check that the UE gives its identity as requested by the network. If this procedure does not work, it will not be possible for the network to rely on the identity claimed by the UE.

9.3.1 General Identification

9.3.1.1 Conformance requirement

1) When requested by the network the ~~User Equipment~~UE shall send its IMSI.

2) When requested by the network the ~~User Equipment~~UE shall send the TMSI which it was previously allocated.

3) When requested by the network the ~~User Equipment~~UE shall send its IMEI as stored in the Mobile Equipment.

4) When requested by the network the ~~User Equipment~~UE shall send its IMEISV as stored in the Mobile Equipment.

Reference(s)

TS 24.008 Clause 4.3.3.

9.3.1.2 Test purpose

1) To verify that the UE sends identity information as requested by the system in the following cases: IMSI and TMSI are requested in non-ciphered mode, IMEI is requested in ciphered mode.

2) To verify that the UE sends its IMEI, when requested to do so, in non-ciphered mode.

3) To verify that the UE sends its IMEISV, when requested to do so, in non-ciphered mode.

9.3.1.3 Method of test

9.3.1.3.1 Identification / test 1

Initial conditions

- System Simulator:
  - 1 cell, default values.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated" on the cell.

Related ICS/IXIT statement(s)

IMEI of the ME.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated" on the cell.~~

Test Procedure

The SS requests identity information from the UE:

- IMSI in non SECURITY mode;
- allocated TMSI in non SECURITY mode;
- IMEI in SECURITY mode.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		←	~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	
	→			Establishment Cause: Answer to paging.
	←			
2	→		PAGING RESPONSE	
3	←		IDENTITY REQUEST	"Identity type" IE is IMSI.
4	→		IDENTITY RESPONSE	"Mobile identity" IE specifies the IMSI of the UE.
5	←		IDENTITY REQUEST	"Identity type" IE is TMSI.
6	→		IDENTITY RESPONSE	"Mobile identity" IE specifies the allocated TMSI of the UE.
7	←		SECURITY MODE COMMAND	
8	→		SECURITY MODE COMPLETE	
9	←		IDENTITY REQUEST	"Identity type" IE is IMEI.
10	→		IDENTITY RESPONSE	"Mobile identity" IE specifies the IMEI stored in the Mobile Equipment.
11	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.3.1.3.2 Identification / test 2

Initial conditions

- System Simulator:
  - 1 cell, default values.
- User Equipment:
  - the UE has a valid TMSI. It is in "idle updated".

Related ICS/IXIT statement(s)

IMEI of the ME.

IMEISV of the ME.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test Procedure

The SS requests identity information from the UE:

- IMEI in non security mode;
- IMEISV in non security mode.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		←	~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	
	→			Establishment Cause: Answer to paging.
	←			
2	→		PAGING RESPONSE	
3		←	IDENTITY REQUEST	"Identity type" IE is IMEI.
4	→		IDENTITY RESPONSE	"Mobile identity" IE specifies the IMEI of the UE.
5		←	IDENTITY REQUEST	"Identity type" IE is IMEIS.
6	→		IDENTITY RESPONSE	"Mobile identity" IE specifies the IMEISV of the UE.
7		←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.3.2 Handling of IMSI shorter than the maximum length

9.3.2.1 Conformance requirement

The UE shall be capable of handling an IMSI that is not of the maximum length.

Reference(s)

TS 24.008 Clause 10.5.1.4.

9.3.2.2 Test purpose

To check that the UE behaves correctly when activated with an IMSI of length less than the maximum length.

In this condition, the UE shall:

- perform location updating;
- answer to paging with IMSI;
- give the correct IMSI when asked by an IDENTITY REQUEST;
- attempt CM connection establishment when requested to;
- attempt call re-establishment when needed;
- attempt IMSI detach when needed;
- erase its TMSI when the IMSI is sent by the network in a LOCATION UPDATING ACCEPT or a TMSI REALLOCATION COMMAND message.

9.3.2.3 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default values;
  - IMSI attach/detach bit set to "1".
- User Equipment:
  - the UE has no valid TMSI;
  - it is "idle updated";
  - the IMSI has the value 001011234.

Related ICS/IXIT statement(s)

On/Off switch - Yes/No.

Foreseen final state of UE

The UE has no valid TMSI. It is in "idle, updated".

Test Procedure

The UE is paged with its IMSI. The UE shall answer to paging and include the correct IMSI in the PAGING RESPONSE message. During call establishment, the SS asks for the IMSI of the UE. The UE shall answer by an IDENTITY RESPONSE message including the correct IMSI. During the active phase of the call, the SS stops sending valid SACCH frames. The UE performs call re-establishment. The UE shall include the correct IMSI in the CM RE-ESTABLISHMENT message. a TMSI REALLOCATION COMMAND including a TMSI is sent to the UE. The UE acknowledges this message. The call is release.

The UE is paged with its TMSI. The UE shall answer to paging and includes its TMSI in the PAGING RESPONSE message. During call establishment, the SS sends a TMSI REALLOCATION COMMAND including the IMSI to the UE. The UE shall acknowledge this message. The UE shall erase its TMSI. The call is released.

The UE is switched off or has its power source removed. The UE performs IMSI detach. The UE shall include the correct IMSI in the IMSI DETACH INDICATION message.

The UE is switched on or powered on. The UE performs IMSI attach. The UE shall include the correct IMSI in the LOCATION UPDATING REQUEST message. A TMSI is allocated to the UE.

The LAC of the cell is changed. The UE performs location updating. The SS includes the IMSI in the LOCATION UPDATING ACCEPT message.

A mobile originated CM connection is attempted. The UE shall include the correct IMSI in the CM SERVICE REQUEST message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"mobile identity 1" contains IMSI of UE.
	→			Establishment cause: Answer to paging.
	←			
2	→		PAGING RESPONSE	"mobile identity" contains the IMSI of the UE.
3	←		IDENTITY REQUEST	"identity type" IE is IMSI.
4	→		IDENTITY RESPONSE	"mobile identity" IE contains the IMSI of the UE.
5				The call is established using the sequence of the generic terminating call set-up procedure.
6	SS			The SS stops sending valid SACCH frames.
7	→		RRC CONNECTION REQUEST	
8	←		RRC CONNECTION SETUP	
9	→		CM REESTABLISHMENT REQUEST	"mobile identity" IE contains IMSI of the UE.
10	←		TMSI REALLOCATION COMMAND	"mobile identity" contains a TMSI.
11	→		TMSI REALLOCATION COMPLETE	
12	←		RRC CONNECTION RELEASE	After sending this message, the SS waits for the disconnection of the main signalling link.
13	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"mobile identity 1" contains TMSI of UE.
	→			Establishment cause: Answer to paging.
	←			
14	→		PAGING RESPONSE	"mobile identity" contains the TMSI of the UE.
15	←		AUTHENTICATION REQUEST	
16	→		AUTHENTICATION RESPONSE	
17	←		TMSI REALLOCATION COMMAND	"mobile identity" contains a IMSI of UE.
18	→		TMSI REALLOCATION COMPLETE	
19	←		RRC CONNECTION RELEASE	
20	UE			If possible (see ICS) the UE is switched off, otherwise the UE has its power source removed.
21	→		RRC CONNECTION REQUEST	If the UE was switched off it performs IMSI detach.
22	←		RRC CONNECTION SETUP	
23	→		IMSI DETACH INDICATION	"mobile identity" contains IMSI of UE.
24	←		RRC CONNECTION RELEASE	
25	UE			The UE is switched on or has power restored.
26	→		RRC CONNECTION REQUEST	
27	←		RRC CONNECTION SETUP	
28	→		LOCATION UPDATING REQUEST	"mobile identity" contains IMSI of UE.
29	←		LOCATION UPDATING ACCEPT	"mobile identity" contains a TMSI.
30	→		TMSI REALLOCATION COMPLETE	
31	←		RRC CONNECTION RELEASE	
32	SS			The SS changes the LAC of the cell.
33	→		RRC CONNECTION REQUEST	Shall be sent within 35s of the LAC being changed.

34	←	RRC CONNECTION SETUP	
35	→	LOCATION UPDATING REQUEST	"mobile identity" contains TMSI of the UE.
36	←	LOCATION UPDATING ACCEPT	"mobile identity" contains IMSI of the UE.
37	←	RRC CONNECTION RELEASE	
38	UE		a mobile originated CM connection is attempted.
39	→	RRC CONNECTION REQUEST	
40	←	RRC CONNECTION SETUP	
41	→	CM SERVICE REQUEST	"mobile identity" contains IMSI of the UE.
42	←	RRC CONNECTION RELEASE	

Specific message contents

None.

9.4 Location updating

This procedure is used to register the UE in the network. If it is not performed correctly, no call can be established.

9.4.1 Location updating / accepted

9.4.1.1 Conformance requirement

1.

1.1 if the network accepts a location updating from the ~~User Equipment~~UE and reallocates a TMSI in the ~~Location Updating Accept~~LOCATION UPDATING ACCEPT message the ~~User Equipment~~UE shall acknowledge the reception of the new TMSI;

1.2 the ~~User Equipment~~UE shall answer to paging with this TMSI and include it in a ~~Paging Response~~PAGING RESPONSE message.

2 If the network accepts a location updating from the ~~User Equipment~~UE and the ~~Location Updating Accept~~LOCATION UPDATING ACCEPT message contains neither TMSI nor IMSI, the ~~User Equipment~~UE shall answer to paging when addressed with the last allocated TMSI and include it in the ~~Paging Response~~PAGING RESPONSE message.

3.

3.1 if the network accepts a location updating from the ~~User Equipment~~UE by use of a ~~Location Updating Accept~~LOCATION UPDATING ACCEPT message containing the IMSI of the ~~User Equipment~~UE, the ~~User Equipment~~UE shall not answer paging with the last allocated TMSI;

3.2 the ~~User Equipment~~UE shall still answer paging with IMSI.

4. A ~~User Equipment~~UE that supports either:

- may ignore SYSTEM INFORMATION TYPE [T.B.D.] messages ; if it does so it shall assume that the SYSTEM INFORMATION TYPE 2 carries the complete BA, for selection of the cell , where it performs the location updating procedure.

This SYSTEM INFORMATION TYPE [T.B.D.] message may be sent by the network with either a L2 pseudo length of 18 or some other value.

See TS 24.008 Clauses 9.1.34 and 3.2.2.1.

Reference(s)

TS 24.008 Clause 4.4.4.6.

9.4.1.2 Test purpose

1) To test the behaviour of the UE if the network accepts the location updating of the UE.

For the network response three different cases are identified:

1.1) TMSI is allocated;

1.2) location updating accept contains neither TMSI nor IMSI;

1.3) location updating accept contains IMSI.

9.4.1.3 Method of test

9.4.1.3.1 Location Updating/accepted/test1

Initial conditions:

- System Simulator:
  - two cells, A and B, belonging to different location areas with location area identification a and b of the same PLMN;
  - IMSI attach/detach is allowed in both cells;
  - the T3212 time-out value is 1/10 hour in both cells.
- User Equipment:
  - the UE has a valid TMSI (=TMSI1) and CKSN (=CKSN1). It is "idle updated" on cell A.

Related ICS/IXIT statement(s)

None.

~~Foreseen final state of the UE~~

~~The UE has no valid TMSI. It has valid CKSN and Kc. It is "idle, updated" on cell B.~~

Test Procedure

The UE is made to select cell B. A normal location updating with TMSI reallocation is performed in cell B. The RRC CONNECTION is released. The SS checks, by paging, that the UE has stored the newly allocated TMSI. The RRC CONNECTION is released. The UE is made to select cell A. A normal location updating is performed in cell A. The LOCATION UPDATING ACCEPT message contains neither IMSI nor TMSI. The SS checks, by paging, that the UE has kept the old TMSI. The RRC CONNECTION is released. The UE is made to select cell B. A normal location updating is performed in cell B. The LOCATION UPDATING ACCEPT message contains an IMSI. The SS checks, by paging, that the UE has deleted its TMSI and responds to paging with IMSI.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The RF level of cell A is lowered until the UE selects cell B.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "location area identification" = a, "mobile station classmark 1" as given by the ICS and "mobile identity" = TMSI1.
5	←		LOCATION UPDATING ACCEPT	"Mobile identity" = new TMSI (=TMSI2), LAI = b.
6	→		TMSI REALLOCATION COMPLETE	
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
8	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains the new TMSI (= TMSI2).
	→			
	←			
9	→		PAGING RESPONSE	"Mobile identity" IE contains the new TMSI (= TMSI2).
10	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
11		SS		The RF level of cell B is lowered until the UE selects cell A.
12	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating
13	←		RRC CONNECTION SETUP	
14	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "location area identification" = b, "mobile station classmark 1" as given by the ICS and "mobile identity" = TMSI2.
15	←		LOCATION UPDATING ACCEPT	"Mobile identity" IE not included.
16	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
17	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains the TMSI (= TMSI2).
	→			
	←			
18	→		PAGING RESPONSE	"Mobile identity" IE contains the TMSI (=TMSI2).
19	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
20		SS		The RF level of cell A is lowered until the UE selects cell B.
21	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
22	←		RRC CONNECTION SETUP	
23	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "location area identification" = a, "mobile station classmark 1" as given by the ICS and "mobile identity" = TMSI2.
24	←		LOCATION UPDATING ACCEPT	"Mobile identity" IE contains IMSI.

25	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
26	←	~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains the old TMSI (= TMSI2).
27	UE		The UE shall ignore this message. This is checked during 5 seconds.
28	←	~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains the IMSI.
	→		
	←		
29	→	PAGING RESPONSE	"Mobile identity" IE contains the IMSI.
30	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.1.3.2 Location Updating/accepted/test2

Initial conditions

- System Simulator:
  - two cells, A and B, belonging to different location areas with location area identification a and b of the same PLMN.
- Sytem information2ter is broadcasted on the two cells (Cell A with L2pseudolength=18, Cell B with L2pseudolength=0):
  - IMSI attach/detach is allowed in both cells;
  - the T3212 time-out value is 1/10 hour in both cells.
- User Equipment:
  - the UE has a valid TMSI (=TMSI1) and CKSN (=CKSN1). It is "idle updated" on cell A.

Related ICS/IXIT statement(s)

None.

~~Foreseen final state of the UE~~

~~The UE has no valid TMSI. It has valid CKSN and Kc. It is "idle, updated" on cell B.~~

Test Procedure

The UE is made to select cell B. A normal location updating with TMSI reallocation is performed in cell B. The RRC CONNECTION is released. The SS checks, by paging, that the UE has stored the newly allocated TMSI. The RRC CONNECTION is released. The UE is made to select cell A. A normal location updating is performed in cell A. The

LOCATION UPDATING ACCEPT message contains neither IMSI nor TMSI. The SS checks, by paging, that the UE has kept the old TMSI. The RRC CONNECTION is released. The UE is made to select cell B. A normal location updating is performed in cell B. The LOCATION UPDATING ACCEPT message contains an IMSI. The SS checks, by paging, that the UE has deleted its TMSI and responds to paging with IMSI.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The RF level of cell A is lowered until the UE selects cell B.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "location area identification" = a, "mobile station classmark 1" as given by the ICS and "mobile identity" = TMSI1.
5	←		LOCATION UPDATING ACCEPT	"Mobile identity" = new TMSI (=TMSI2), LAI = b.
6	→		TMSI REALLOCATION COMPLETE	
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
8	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains the new TMSI (= TMSI2).
	→			
	←			
9	→		PAGING RESPONSE	"Mobile identity" IE contains the new TMSI (= TMSI2).
10	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
11		SS		The RF level of cell B is lowered until the UE selects cell A.
12	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating
13	←		RRC CONNECTION SETUP	
14	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "location area identification" = b, "mobile station classmark 1" as given by the ICS and "mobile identity" = TMSI2.
15	←		LOCATION UPDATING ACCEPT	"Mobile identity" IE not included.
16	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
17	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains the TMSI (= TMSI2).
	→			
	←			
18	→		PAGING RESPONSE	"Mobile identity" IE contains the TMSI (=TMSI2).
19			RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
20		SS		The RF level of cell A is lowered until the UE selects cell B.
21	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
22	←		RRC CONNECTION SETUP	
23	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = CKSN1, "location area identification" = a, "mobile station classmark 1" as given by the ICS and "mobile identity" = TMSI2.
24	←		LOCATION UPDATING ACCEPT	"Mobile identity" IE contains IMSI.

25	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The SS waits an amount of time which is enough to guarantee that the UE is in service.
26	←	~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains the old TMSI (= TMSI2).
27	UE		The UE shall ignore this message. This is checked during 5 seconds.
28	←	~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains the IMSI.
	→		
	←		
29	→	PAGING RESPONSE	"Mobile identity" IE contains the IMSI.
30	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents: [T.B.D.]

9.4.2 Location updating / rejected

9.4.2.1 Location updating / rejected / IMSI invalid

9.4.2.1.1 Conformance requirement

1) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "IMSI unknown in HLR", "Illegal UE" or "Illegal ME" the ~~User Equipment~~UE shall:

   1.1 not perform normal location updating;

   1.2 not perform periodic location updating;

   1.3 not respond to paging with IMSI;

   1.4 not respond to paging with TMSI;

   1.5 reject any request from CM entity for MM connection other than for emergency call;

   1.6 not perform IMSI detach if it is switched off or has its power source removed.

2) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "IMSI unknown in HLR", "Illegal UE" or "Illegal ME" the ~~User Equipment~~UE, if it supports speech, shall accept a request for an emergency call by sending a RRC CONNECTION Request message with the establishment cause set to "emergency call" and include an IMEI as mobile identity in the CM SERVICE REQUEST message.

3) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "IMSI unknown in HLR", "Illegal UE" or "Illegal ME" the ~~User Equipment~~UE shall delete the stored LAI, CKSN and TMSI.

Reference(s)

TS 24.008 Clause 4.4.4.7.

9.4.2.1.2 Test purpose

To test the behaviour of the UE if the network rejects the location updating of the UE with the cause "IMSI unknown in HLR", "illegal UE" or "Illegal ME".

9.4.2.1.3 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B, belonging to different location areas of the same PLMN;
  - IMSI attach/detach is allowed in both cells;
  - the T3212 time-out value is 1/10 hour in both cells.
- User Equipment:
  - the UE has valid TMSI, CKSN and ~~Kc~~CK, IK. It is "idle updated" on cell A.

Related ICS/IXIT statement(s)

~~SIM~~USIM removal possible while the UE is powered Yes/No.

Switch off on button Yes/No.

Support for speech Yes/No.

~~Foreseen final state of the UE~~

~~The UE has valid TMSI, CKSN and Kc. It is "idle updated" on cell A.~~

Test Procedure

The SS rejects a normal location updating with the cause value "IMSI unknown in HLR". The RRC CONNECTION is released. The SS checks that the UE has entered the state MM IDLE and the substate NO IMSI, i.e. does not perform normal location updating when a new cell of the same or another PLMN is entered, does not perform periodic updating, does not respond to paging, rejects any requests from CM entities except emergency calls and does not perform IMSI detach if it is switched off or has its power source removed.

The test is repeated with cause value "Illegal UE" and with cause value "Illegal ME".

Expected sequence

The sequence is executed for execution counter k = 1, 2, 3.

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell B.
1	SS			The RF level of cell A is lowered until the UE selects cell B.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	
5	←		LOCATION UPDATING REJECT	"Reject cause" IE is "IMSI unknown in HLR" for k = 1, "Illegal UE" for k = 2, "Illegal ME" for k = 3.
6	→		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
				The following messages are sent and shall be received on cell A.
7	SS			The RF levels are then changed again to make the UE reselect the cell A.
8	UE			The UE performs cell reselection according to procedure as specified in (this however is not checked until step 18). The UE shall not initiate an RRC connection establishment on cell A or on cell B.
9	SS			The SS waits at least 7 minutes for a possible periodic updating.
10	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B.
11	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	The UE is paged in cell A. "Mobile identity" IE contains IMSI.
12	UE			The UE shall ignore this message. This is verified during 3 seconds.
13	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	The UE is paged in cell A. "Mobile identity" IE contains TMSI.
14	UE			The UE shall ignore this message. This is verified during 3 seconds.
15	UE			A MO CM connection is attempted.
16	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 seconds.
17	UE			If the UE supports speech (see ICS), it is made to perform an emergency call.
	→			"Establishment cause": Emergency call. This message is sent in cell A.
	←			
18	→		CM SERVICE REQUEST	"CM service type": Emergency call establishment. "Mobile identity": type of identity is set to IMEI.
19	←		CM SERVICE ACCEPT	
20	→		EMERGENCY SETUP	
21	←		RELEASE COMPLETE	"Cause" = unassigned number.
22	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
23	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.

24	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 seconds.
25	UE		Depending on what has been performed in step 25 the UE is brought back to operation.
26	→	RRC CONNECTION REQUEST	"Establishment cause": Location updating.
27	←	RRC CONNECTION SETUP	
28	→	LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "mobile station classmark 1" as given by the ICS, "Mobile Identity" = IMSI, "LAI" = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE).
29	←	AUTHENTICATION REQUEST	"CKSN" = CKSN1.
30	→	AUTHENTICATION RESPONSE	
31	←	LOCATION UPDATING ACCEPT	"Mobile Identity" = TMSI.
32	→	TMSI REALLOCATION COMPLETE	
33	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.2.2 Location updating / rejected / PLMN not allowed

9.4.2.2.1 Conformance requirement

1) If the network reject a location updating from the ~~User Equipment~~UE with the cause "PLMN not allowed" the ~~User Equipment~~UE shall:

   1.1 not perform periodic updating;

   1.2 not perform IMSI detach when switched off;

   1.3 not perform IMSI attach when switched on in the same location area;

   1.4 not perform normal location updating when in the same PLMN and when that PLMN is not selected manually;

   1.5 reject any request from CM entity for MM connection other than for emergency call.

2) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "PLMN not allowed" the ~~User Equipment~~UE shall:

   2.1 perform normal location updating when a new PLMN is entered;

   2.2 accept a request for an emergency call, if it supports speech, by sending a RRC CONNECTION Request message with the establishment cause set to "emergency call".

3) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "PLMN not allowed" and if after that the PLMN from which this rejection was received, is manually selected, the ~~User Equipment~~UE shall perform a normal location updating procedure.

Reference(s)

TS 24.008 Clause 4.4.4.7.

9.4.2.2.2 Test purpose

To test the behaviour of the UE if the network rejects the location updating of the UE with the cause "PLMN not allowed".

9.4.2.2.3 Method of test

9.4.2.2.3.1 Location updating / rejected / PLMN not allowed / test 1

Initial conditions

- System Simulator:
  - one cell: C, belonging to PLMN1;
  - two cells: A and B, belonging to different location areas a and b and belonging to PLMN2. PLMN2 is different from HPLMN and from PLMN1;
  - IMSI attach/detach is allowed in cells A and B but not in cell C;
  - the T3212 time-out value is 1/10 hour in cells A and B.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated" on cell C;
  - the UE is in manual mode for PLMN selection.

Related ICS/IXIT statement(s)

~~SIM~~USIM removal possible while the UE is powered Yes/No.

Switch off on button Yes/No.

The UE is automatically in automatic mode after switch on Yes/No.

Support for speech Yes/No.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated" on cell C. The UE is in automatic mode for PLMN selection.~~

Test Procedure

The SS rejects a normal location updating with the cause value "PLMN not allowed". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic updating, does not perform IMSI detach, does not perform IMSI attach if activated in the same location area, rejects any request for CM connection establishment other than emergency call, accepts a request for an emergency call and performs normal location updating only when a new PLMN is entered.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell B.
1	UE			The UE is switched off (or power is removed).
2	SS			The SS activates cells A and B and deactivates cell C. Cell B has a level higher by at least 5 dB than cell A.
3	UE			The UE is switched on. (or power is reapplied) If necessary the UE is put in manual selection mode. The UE shall offer the new PLMN as available to the user. The PLMN is manually selected.
4	→	SS	RRC CONNECTION REQUEST	"Establishment cause": Location updating.
5	←		RRC CONNECTION SETUP	
6	→		LOCATION UPDATING REQUEST	
7	←		LOCATION UPDATING REJECT	"Reject cause" = PLMN not allowed.
8	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
9	SS			The SS waits for a possible periodic updating for 7 minutes.
10	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B.
11	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
12	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 seconds.
13	UE			Depending on what has been performed in step 11 the UE is brought back to operation. The UE is not made to select PLMN 2.
14	UE			The UE shall not initiate an RRC connection establishment. This is checked during 3 seconds.
				The following message are sent and shall be received on cell A.
15	SS			The RF level of cell B is lowered to make the UE reselect cell A.
16	UE			No access to the network shall be registered by the SS within one minute.
17	UE			If the UE supports speech (see ICS) it is made to perform an emergency.
18	→		RRC CONNECTION REQUEST	"Establishment cause": Emergency call.
19	←		RRC CONNECTION SETUP	
20	→		CM SERVICE REQUEST	"CM service type" = Emergency call establishment.
21	←		CM SERVICE ACCEPT	
22	→		EMERGENCY SETUP	
23	←		RELEASE COMPLETE	Cause IE: "unassigned number".
24	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
25	UE			A MO CM connection is attempted.
26	UE			The UE shall not initiate an RRC connection establishment. This is checked during 3 seconds.
				The following messages are sent and shall be received on cell C.
27	UE			The UE is switched off.
28	SS			The SS activates cell C and deactivates cells A and B.
29	UE			The UE is switched on. If necessary the UE is placed into the automatic mode.
30	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
31	←		RRC CONNECTION SETUP	
32	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "LAI" = deleted LAI (the MCC and MNC hold the values of PLMN1, the LAC is coded FFFE) "mobile identity" = IMSI.

33	←	LOCATION UPDATING ACCEPT	"Mobile identity" = TMSI.
34	→	TMSI REALLOCATION COMPLETE	
35	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents:

None.

9.4.2.2.3.2 Location updating / rejected / PLMN not allowed / test 2

Initial conditions

- System Simulator:
  - one cell C, belonging to PLMN1;
  - two cells A and B, belonging to different location areas a and b and belonging to PLMN2. PLMN2 is different from HPLMN;
  - IMSI attach/detach is allowed in cells A and B but not in cell C;
  - the T3212 time-out value is 1/10 hour in cells A and B.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated" on cell C.

Related ICS/IXIT statement(s)

~~SIM~~USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

The UE is automatically in automatic mode after switch on Yes/No.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle, updated" on cell C.~~

~~The UE is in automatic mode for PLMN selection.~~

Test Procedure

The SS rejects a normal location updating with the cause value "PLMN not allowed". The RRC CONNECTION is released. Then the PLMN from which this rejection was received is manually selected and the SS checks that a normal location updating is performed.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell B.
1	UE			The UE is switched off (or power is removed).
2	SS			The SS activates cells A and B and deactivates cell C. Cell B has a level higher by at least 5 dB than cell A.
3	UE			The UE is switched on (or power is reapplied).
3a	UE			If the UE is in manual mode, it shall offer the new PLMN as available to the user. In this case the PLMN is manually selected.
4	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
5	←		RRC CONNECTION SETUP	
6	→		LOCATION UPDATING REQUEST	
7	←		LOCATION UPDATING REJECT	"Reject cause" = PLMN not allowed.
8	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
9	UE			The UE is made to search for PLMNs and the PLMN indicated by the SS is manually selected.
10	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
11	←		RRC CONNECTION SETUP	
12	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "LAI" = deleted LAI (the MCC and MNC hold the values of PLMN1, the LAC is coded FFFE) "mobile identity" = IMSI.
13	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The following messages are sent and shall be received on cell C.
14	UE			The UE is switched off.
15	SS			The SS activates cell C and deactivates cells A and B.
16	UE			The UE is switched on. If necessary, the UE is put into the automatic mode.
17	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
18	←		RRC CONNECTION SETUP	
19	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "LAI" = deleted LAI (the MCC and MNC hold the values of PLMN1, the LAC is coded FFFE) "mobile identity" = IMSI.
20	←		LOCATION UPDATING ACCEPT	"Mobile identity" = TMSI.
21	→		TMSI REALLOCATION COMPLETE	
22	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.2.3 Location updating / rejected / location area not allowed

9.4.2.3.1 Conformance requirement

1) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "Location Area not allowed" the ~~User Equipment~~UE shall:

1.1 not perform periodic updating;

1.2 not respond to paging with TMSI;

1.3 reject any request from CM entity for MM connection other than for emergency call;

1.4 not perform IMSI detach.

2) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "Location Area not allowed" the ~~User Equipment~~UE shall:

2.1 perform normal location updating when a new location area is entered;

2.2 accept a request for an emergency call, if it supports speech, by sending a RRC CONNECTION Request message with the establishment cause set to "emergency call";

2.3 delete the list of forbidden LAs after switch off (power off).

Reference(s)

TS 24.008 Clause 4.4.4.7.

9.4.2.3.2 Test purpose

To test the behaviour of the UE if the network rejects the location updating of the UE with the cause "Location Area not allowed".

To test that the UE deletes the list of forbidden LAs after switch off (power off).

9.4.2.3.3 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B, belonging to different location areas a and b;
  - IMSI attach/detach is allowed in both cells;
  - the T3212 time-out value is 1/10 hour in both cells.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated" on cell A.

Related ICS/IXIT statement(s)

Switch off on button Yes/No.

Support for speech Yes/No.

Method to clear the list of forbidden location areas periodically.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated" on cell A.~~

Test Procedure

The SS rejects a normal location updating with the cause value "Location Area not allowed". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic updating, does not respond to paging with TMSI, rejects any requests from CM entities for MM-connections except emergency calls, does not perform IMSI detach, performs normal location updating when a new location area is entered and deletes the list of forbidden LAs when switched off.

Different types of UE may use different methods to periodically clear the list of forbidden location areas (e.g. every day at 12am). If the list is cleared while the test is being run, it may be necessary to re-run the test.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell B.
1		SS		The RF level of cell A is lowered so that cell B is selected, while keeping the C1 and C2 of cell A greater than 10.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	
5	←		LOCATION UPDATING REJECT	"Reject cause" = "Location Area not allowed".
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the mainsignalling link. The
7		SS		SS waits for a possible location updating for 7 minutes.
8	UE			The UE shall not initiate an RRC-connection establishment either on cell A or cell B.
9	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	The UE is paged in cell B. "Mobile identity" = TMSI.
10	UE			The UE shall ignore this message. This is checked during 3 seconds.
11	UE			A MO CM connection is attempted.
12	UE			The UE shall not initiate an RRC connection establishment on cell A or cell B. This is checked during 3 seconds.
13	UE			If the UE supports speech (see ICS), it is made to perform an emergency call.
	→			"Establishment cause": Emergency call.
	←			
14	→		CM SERVICE REQUEST	"CM service type": Emergency call establishment.
15	←		CM SERVICE ACCEPT	
16	→		EMERGENCY SETUP	
17	←		RELEASE COMPLETE	Cause: "unassigned number".
18	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
19	UE			If possible (see ICS) switch off is performed. Otherwise the power is removed.
20	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B (check for IMSI detach) This is checked during 3 seconds.
21	UE			Depending on what has been performed in step 21 the UE is brought back to operation.
22	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
23	←		RRC CONNECTION SETUP	
24	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available,"LAI" = deleted LAI, "mobile identity" = IMSI (This checks the deletion of the forbidden lists)
25	←		LOCATION UPDATING REJECT	"Reject cause" = "Location Area not allowed".
26	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. The following messages are sent and shall be received on cell A.
27		SS		The RF level of cell B is lowered until the UE selects cell A.
28	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
29	←		RRC CONNECTION SETUP	
30	→		LOCATION UPDATING REQUEST	
31	←		AUTHENTICATION REQUEST	
32	→		AUTHENTICATION RESPONSE	
33	←		LOCATION UPDATING ACCEPT	Mobile identity = TMSI.

34	→	TMSI REALLOCATION COMPLETE	
35	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.2.4 Location updating / rejected / roaming not allowed in this location area

9.4.2.4.1 Conformance requirement

1) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "Roaming not allowed in this area" the ~~User Equipment~~UE shall:

   1.1 not perform periodic updating;

   1.2 not respond to paging with TMSI;

   1.3 reject any request from CM entity for MM connection other than for emergency call;

   1.4 not perform IMSI detach.

2) If the network rejects a location updating from the ~~User Equipment~~UE with the cause "Roaming not allowed in this area" the ~~User Equipment~~UE shall:

   2.1 perform normal location updating when a new location area is entered;

   2.2 accept a request for an emergency call, if it supports speech, by sending a RRC CONNECTION Request message with the establishment cause set to "emergency call";

   2.3 periodically search for its HPLMN.

3) The ~~User Equipment~~UE shall reset the list of "Forbidden location areas for roaming" when it is switched off or has its power source removed or when the ~~SIM~~USIM is removed.

4) The UE shall be capable of storing at least 6 entries in the list of "Forbidden location areas for roaming".

Reference(s)

TS 24.008 Clause 4.4.4.7.

9.4.2.4.2 Test purposes

Test purpose 1

To test that on receipt of a rejection using the Roaming cause code, the UE ceases trying to update on that cell, that this situation continues for at least one periodic location interval period, and that the corresponding list is re-set by switching off the UE or removing its power source.

Test purpose 2

To test that if no cell is available, the UE does not answer to paging with TMSI, rejects a request from CM entity other than for emergency calls.

Test purpose 3

To test that at least 6 entries can be held in the list of "forbidden location areas for roaming" (the requirement in is to store at least 10 entries. This is not fully tested by the third procedure).

Test purpose 4

To test that if a cell of the Home PLMN is available then the UE returns to it in preference to any other available cell.

Test purpose 5

To test that if the ~~SIM~~USIM is removed the list of "forbidden location areas for roaming" is cleared.

9.4.2.4.3 Method of test

Initial conditions

The initial conditions shall be met before each of the different procedures.

- System Simulator:
  - for procedures 1, 2, 3 and 5: Two cells A and B, belonging to different location areas of the same PLMN with LAI a and b. The MCC of that PLMN is the same as that of the HPLMN. The MNC of that PLMN is different from that of the HPLMN;
  - for procedure 4: three cells A, B, C of the same PLMN which is not the HPLMN with 3 different location area codes. Cells should differ in signal strength by 10 dB with cell A being the strongest and cell C the weakest. There should be a 20 dB range between A and C. A should be set to a level of - 40 dBm;
  - IMSI attach/detach is allowed in every cell;
  - the T3212 time-out value is 1/10 hour in every cell.
- User Equipment:
  - procedures 1, 2, 3 and 5: The UE has valid TMSI, CKSN and ~~Kc~~CK, IK. It is "idle updated" on cell B;
  - procedure 4: The UE has valid TMSI, CKSN and ~~Kc~~CK, IK. It is "idle updated" on cell A;
  - the list of "forbidden location areas for roaming" shall be empty (this may be achieved by either removing the ~~SIM~~USIM or switching the UE OFF then ON or removing the UE power source depending on ICS).

Related ICS/IXIT statement(s)

~~SIM~~USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

Method to clear the list of location areas for roaming periodically.

The UE is automatically in automatic mode after switch on Yes/No.

~~Foreseen final state of the UE~~

~~Procedures 1 and 5: The UE has no valid TMSI and no CKSN. It is "idle updated" on cell A.~~

~~Procedure 2 and 3: The UE has no valid TMSI and no CKSN. It is in the "limited service" state on cell A.~~

~~Procedure 4: The UE has no valid TMSI and no CKSN. It is "idle updated" on cell C.~~

Test Procedures

Procedure 1:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this area". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic location updating procedure. The UE is turned off and then on. The SS checks that the UE performs location updating on the cell on which its location update request had been rejected (this checks that the LA is not the forbidden list after switch on). This procedure is performed another time but the deletion of the list is checked while removing the ~~SIM~~USIM (instead of turning off the UE).

Procedure 2:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this area". The RRC CONNECTION is released. The SS checks that the UE does not answer to a paging message with TMSI, rejects a request from CM entity but supports an emergency call.

Procedure 3:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this area". This is done for 6 different location areas. Then the SS checks that the UE does not attempt to begin a location updating procedure on the non-allowed location areas.

Procedure 4:

- The SS accepts a periodic location updating on a cell not belonging to the HPLMN. Then when the UE attempts to perform a periodic location updating to this cell, the SS rejects this location updating with the cause value "Roaming not allowed in this area". Two cells are then available, one belonging to the HPLMN but with the weakest level. It is checked that the UE returns to its HPLMN.

Procedure 5: If ~~SIM~~USIM removal is possible while UE is powered:

- The SS rejects a normal location updating with the cause value "Roaming not allowed in this area". The RRC CONNECTION is released. The SS checks that the UE does not perform periodic location updating procedure. The ~~SIM~~USIM is removed and inserted in the UE. The SS checks that the UE performs location updating on the cell on which its location update request had been rejected (this checks that the LA is not the forbidden list after switch on).

Different types of UE may use different methods to periodically clear the list of forbidden areas (e.g. every day at 12am) for roaming. If the list is cleared while the test is being run, it may be necessary to re-run the test.

Expected sequence

The following procedure is used during the test:

- change_LAI (x):
  - the purpose of this procedure is to change the value of Location Area Identifier of cell x;
  - the Location Area Identifier of cell x shall be changed. The code shall be chosen arbitrarily but shall be different from any previously used in this procedure. The code shall have the same MCC as the Home PLMN and shall not have the same MNC as the Home PLMN.

Procedure 1

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell A.
1		SS		The RF level of cell B is lowered until cell B is no more suitable and the UE selects cell A.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	
5	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7		SS		The SS waits at least 7 minutes for a possible location updating.
8	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B.
9	UE			If possible (see ICS) the UE is switched off. Otherwise if possible the power is removed.
10	UE			Depending on what has been performed in step 9 the UE is brought back to operation and placed in a automatic mode.
11	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
12	←		RRC CONNECTION SETUP	
13	→		LOCATION UPDATING REQUEST	Location Updating Type = normal.
14	←		LOCATION UPDATING ACCEPT	IE Mobile Identity not present.
15	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Procedure 2

Step	Direction	Message	Comments
			The following messages are sent and shall be received on cell A.
1	SS		The RF level of cell B is lowered until the UE selects cell A. The level of cell B shall be such that cell B is suitable for cell selection.
2	→	RRC CONNECTION REQUEST	"Establishment cause": Location updating This message is sent on cell A.
3	←	RRC CONNECTION SETUP	
4	→	LOCATION UPDATING REQUEST	
5	←	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
6	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
			The following messages are sent and shall be received on cell B.
7	→	RRC CONNECTION REQUEST	"Establishment cause": Location updating.
8	←	RRC CONNECTION SETUP	
9	→	LOCATION UPDATING REQUEST	
10	←	LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
11	←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
12	SS		The SS waits for a possible location updating procedure on both cells A and B for 2 minutes.
13	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B within 2 minutes after the end of step 11.
14	←	~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" = TMSI. This message is sent on cell A and on cell B.
15	UE		The UE shall not initiate an RRC connection on cell A or on cell B. This is checked during 3 seconds.
16	UE		A MO CM connection is attempted.
17	UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 seconds.
			The following messages are sent and shall be received on cell A Steps 20 to 27 are performed if the UE supports speech.
18	UE		An emergency call is attempted.
	→		"Establishment cause":
	←		
19	→	CM SERVICE REQUEST	"CM service type": Emergency call establishment.
20	←	CM SERVICE ACCEPT	
21	→	EMERGENCY SETUP	
22	←	RELEASE COMPLETE	"Cause" = unassigned number.
23	→	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Procedure 3

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell A
1		SS		The RF level of cell B is lowered until the UE selects cell A. The level of cell B shall be such that cell B is suitable for cell selection.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	
5	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
				The following messages are sent and shall be received on cell B.
9	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
10	←		RRC CONNECTION SETUP	
11	→		LOCATION UPDATING REQUEST	
12	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
13	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
14		SS		Change_LAI (A) within 5 seconds after step 12.
				The following messages are sent and shall be received on cell A.
17	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
18	←		RRC CONNECTION SETUP	
19	→		LOCATION UPDATING REQUEST	
20	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
21	→		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
22		SS		Change_LAI (B) within 5 seconds after step 20.
				The following messages are sent and shall be received on cell B.
25	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
26	←		RRC CONNECTION SETUP	
27	→		LOCATION UPDATING REQUEST	
28	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
29	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
30		SS		Change_LAI (A) within 5 seconds after step 28.
				The following messages are sent and shall be received on cell A.
33	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
34	←		RRC CONNECTION SETUP	
35	→		LOCATION UPDATING REQUEST	
36	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
37	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
38		SS		Change_LAI (B) within 5 seconds after step 36.
				The following messages are sent and shall be received on cell B.
41	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
42	←		RRC CONNECTION SETUP	
43	→		LOCATION UPDATING REQUEST	

Step	Direction		Message	Comments
	UE	SS		
44	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
45	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
46		SS		The SS waits for a possible location updating procedure on both cells A and B for 7 minutes.
47	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B within 7 minutes after the end of step 45.

Procedure 4

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell A.
1		SS		The SS waits for a periodic location updating procedure on cell A for 7 minutes after the initial conditions have been established.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	Location Updating Type = periodic.
5	←		LOCATION UPDATING ACCEPT	IE Mobile Identity not present.
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7		SS		The location area identity of cell C shall be changed to that of a location area in the Home PLMN.
8		SS		The SS waits for a periodic location updating procedure on cell A for 7 minutes.
9	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating This message is sent on cell A within 7 minutes after the end of step 6.
10	←		RRC CONNECTION SETUP	
11	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
12	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
13	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
				The following messages are sent and shall be received on cell C.
16	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
17	←		RRC CONNECTION SETUP	
18	→		LOCATION UPDATING REQUEST	
19	←		LOCATION UPDATING ACCEPT	IE Mobile Identity not present.
20	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Procedure 5

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell A.
1		SS		The RF level of cell B is lowered until cell B is no longer suitable and the UE selects cell A.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	
5	←		LOCATION UPDATING REJECT	"Reject cause" IE is "Roaming not allowed in this location area".
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7		SS		The SS waits at least 7 minutes for a possible location updating.
8		UE		The UE shall not initiate an RRC connection establishment on cell A or on cell B.
9		UE		The ~~SIM~~USIM is removed.
10		UE		The ~~SIM~~USIM is inserted into the ME.
11	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
12	←		RRC CONNECTION SETUP	
13	→		LOCATION UPDATING REQUEST	Location Updating Type = normal.
14	←		LOCATION UPDATING ACCEPT	IE Mobile Identity not present.
15	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.3 Location updating / abnormal cases

9.4.3.1 Location updating / abnormal cases / random access fails

9.4.3.1.1 Conformance requirement

If during the RRC connection establishment phase of a normal location updating procedure, RRC CONNECTION requests are not answered by the network, the ~~User Equipment~~UE shall:

1. send (Max-Retrans+1) RRC CONNECTION Request messages;
2. not try to establish a connection during a period of T3213;
3. then perform a normal location updating procedure as it is still necessary;
4. not repeat the complete procedure if the original cause of the location updating procedure has disappeared.

Reference(s)

TS 24.008 Clause 4.4.4.9.

9.4.3.1.2 Test purpose

To verify that when during the RRC connection establishment phase of a location updating procedure, RRC CONNECTION requests are not answered by the network, after expiry of T3213 (= 4s in Phase 2) and when the cell reselection procedure is finished the complete procedure is repeated if still necessary.

9.4.3.1.3 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B of the same PLMN, belonging to different location areas with LAI a and b;
  - the RF power level of cell B is higher than the one of cell A;
  - IMSI attach/detach is not allowed in both cells;
  - the T3212 time-out value is set to infinite in both cells.
- User Equipment:
  - the UE has a valid TMSI, CKSN and ~~Kc~~CK, IK. It is "Idle updated" on cell B.

Related ICS/IXIT statement(s)

None.

~~Foreseen final state of the UE~~

~~The UE is "Idle updated" on cell A.~~

Test Procedure

The SS causes a random access failure in the UE during a normal location updating procedure. After the expiry of T3213 and when the cell reselection procedure is finished the UE will try to restart the normal location updating procedure.

The test is repeated but the original cause of the location updating procedure has disappeared. The SS then checks that the UE will not restart the location updating procedure.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell A.
1	UE			The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable as defined in GSM 05.08 subclause 6.6.2..
2	→		RRC CONNECTION REQUEST	Establishment cause: Location updating. This message is sent by the UE (Max_Retrans + 1) times.
3	SS			The SS waits for 4 seconds.
4	UE			The UE shall not send any layer 3 message during this time.
5	→		RRC CONNECTION REQUEST	Establishment cause: Location updating. The time difference between this message and the last RRC CONNECTION REQUEST sent in step 2 shall be in the range 4 s - 9 s.
6	←		RRC CONNECTION SETUP	
7	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 and mobile identity = TMSI.
8	←		LOCATION UPDATING ACCEPT	Optional IE Mobile Identity not included
9	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
10	SS			The RF level of cell B is set to the same value as for cell A.
11	SS			The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is kept sufficiently high to ensure that cell A is still suitable as defined in subclause 6.6.2.
				The following messages are sent and shall be received on cell B.
12	→		RRC CONNECTION REQUEST	Establishment cause: Location updating. This message is sent by the UE (Max_Retrans + 1) times.
13	SS			Immediately after the end of step 12 the RF level of cell A is set to the same value as for cell B.
14	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 15 s.

Specific message contents

None.

9.4.3.2 Location updating / abnormal cases / attempt counter less or equal to 4, LAI different

9.4.3.2.1 Conformance requirement

1) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure, if the attempt counter is smaller than 4 and after expiry of T3211, the ~~User Equipment~~UE shall resend its ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type set to "normal location updating".

2) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the ~~User Equipment~~UE shall:

   2.1 not answer to paging with the previously allocated TMSI;

   2.2 not perform the IMSI detach procedure, when switched off.

3) When a failure such as case e) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure and when an emergency call establishment is requested by the user the ~~User Equipment~~UE, if it supports speech, shall send a ~~CM Service Request~~CM SERVICE REQUEST message with CM Service Type IE set to "emergency call establishment", CKSN IE set to "no key available" and Mobile Identity IE set to its IMSI and after acceptance by the network it shall send an ~~Emergency Setup~~EMERGENCY SETUP message.

4) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the ~~User Equipment~~UE shall use a request from CM entity other than emergency call as a trigger for a normal location updating procedure and shall send a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating".

5) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the ~~User Equipment~~UE shall answer to paging with IMSI and shall send a ~~Paging Response~~PAGING RESPONSE message with CKSN IE set to "no key available" and Mobile Identity IE set to its IMSI.

6) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during a normal location updating procedure the ~~User Equipment~~UE shall perform a normal location updating procedure as soon as it enters a new cell.

References

TS 24.008 Clauses 4.4.4.2, 4.4.4.9.

9.4.3.2.2 Test purpose

To verify that the UE performs normal location updating procedures when its attempt counter is smaller than 4.

To check that the UE does not perform the IMSI detach procedure when "idle not updated".

To verify that when "idle not updated" the UE can perform an emergency call.

To verify that when "idle not updated" the UE uses requests from CM layer other than emergency call as triggering of a normal location updating procedure.

To verify that the UE performs a normal location updating procedure if it enters a new cell while being "idle not updated".

9.4.3.2.3 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B of the same PLMN, belonging to different location areas with LAI a and b;
  - ATT flag shall be set to IMSI attach/detach allowed.
- User Equipment:
  - the UE is "idle updated" on cell A. A valid CKSN value is stored in the ~~SIM~~USIM and is noted "initial CKSN". A TMSI is allocated.

Related ICS/IXIT statements

~~SIM~~USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support for speech Yes/No.

~~Foreseen final state of the UE~~

~~The UE is "Idle updated" on cell A with a valid CKSN and a TMSI.~~

Test Procedure

The UE is made to perform a normal location updating procedure. Four types of failure cases are triggered:

- sending of a Location Updating Reject with cause randomly chosen between all defined cause values except 2, 3, 6, 11, 12 and 13 (which trigger a different action) (case g of TS 24.008 clause 4.4.4.9);
- RRC-connection failure (case d);
- sending of a RRC CONNECTION RELEASE message before the normal end of the procedure (case f);
- T3210 time-out (case e).

As there is no stored LAI or the stored LAI is different from the broadcast LAI, and the attempt counter in the UE shall be lower than 4, the UE enters the state MM IDLE and substate ATTEMPTING TO UPDATE and waits for T3211 seconds before trying again a location updating procedure.

Then the behaviour of the UE in the MM IDLE ATTEMPTING TO UPDATE SERVICE state is checked, that is:

- not answer to paging with TMSI;
- not perform an IMSI detach procedure;
- support request for emergency call;
- use requests from CM layer other than emergency call as triggering of a normal location updating procedure;
- perform normal location updating procedure when a new cell is entered.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
The following messages are sent and shall be received on cell B.				
1	UE			The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable as defined in subclause 6.6.2.
2	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
5	←		LOCATION UPDATING REJECT	IE Reject cause is set to a value arbitrarily chosen: * in table 10.66 of, causes #2, #3, #6, #11, #12 and #13 being excluded.
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
8	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
9	←		RRC CONNECTION SETUP	
10	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
11	SS			The SS deactivates the SACCH on the dedicated RRC CONNECTION. The SS waits until there are no more SACCH frames in the uplink direction. This release connection is done within 8 SACCH frames.
12	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B within T3211 + RadioLinkTimeout after the SS deactivates the SACCH.
13	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
14	←		RRC CONNECTION SETUP	
15	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
16	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
17	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
18	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
19	←		RRC CONNECTION SETUP	
20	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
21	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
22	→		AUTHENTICATION RESPONSE	
23	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
24	→		TMSI REALLOCATION COMPLETE	
25	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell B.
The following messages are sent and shall be received on cell A.				
26	UE			The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable as defined in subclause 6.6.2.
27	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
28	←		RRC CONNECTION SETUP	

Step	Direction		Message	Comments
	UE	SS		
29	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
30	SS			performs step 5 with reject cause #100 and step 6.
31	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	Mobile identity = old TMSI of the UE. This message is sent continuously to the UE during 8 seconds.
32	SS			The SS checks that there is no answer from the UE during 12 seconds.
33	SS			If during steps 31 and 32 the UE attempts to perform a location updating procedure the SS will perform step 30 and then continue the procedure.
34	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) mobile switch off is performed. Otherwise the power is removed.
35	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 30 seconds.
36	UE			Depending on what has been performed in step 34 the UE is brought back to operation.
	→			Establishment cause: Location updating.
	←			
37	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
38	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
39	→		AUTHENTICATION RESPONSE	
40	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
41	→		TMSI REALLOCATION COMPLETE	
42	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.
43	UE			The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable as defined in subclause 6.6.2.
44	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
45	←		RRC CONNECTION SETUP	
46	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
47	←		AUTHENTICATION REQUEST	
48	→		AUTHENTICATION RESPONSE	steps 49 and 50 are performed N times. N shall be chosen in such a way that T3210 expires. Depending on when T3210 expires in the UE, it is possible that on the Nth occurrence of step 50 the UE may send a L2 DISC rather than the AUTHENTICATION RESPONSE message.
49	SS			The SS checks that there is no more activity from the UE on the RRC CONNECTION after the DISC/UA exchange has been completed.
50	UE			If the UE supports speech it is made to perform an emergency call.
51	→		RRC CONNECTION REQUEST	Establishment cause: Emergency call.
52	←		RRC CONNECTION SETUP	
53	→		CM SERVICE REQUEST	CM service type = Emergency call establishment; CKSN = no key available; Mobile Identity = IMSI.
54	←		CM SERVICE ACCEPT	
55	→		EMERGENCY SETUP	
56	←		RELEASE COMPLETE	Cause = unassigned number.
57	←		RRC CONNECTION RELEASE	

Step	Direction		Message	Comments
	UE	SS		
58	→		RRC CONNECTION REQUEST	Establishment cause: Location updating The SS will wait at most 15 seconds for this message.
59	←		RRC CONNECTION SETUP	
60	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
61	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
62	→		AUTHENTICATION RESPONSE	
63	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
64	→		TMSI REALLOCATION COMPLETE	
65	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell B.
66	UE			The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable as defined in subclause 6.6.2.
67	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
68	←		RRC CONNECTION SETUP	
69	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
70	SS			performs step 11.
71	UE			A MO CM connection is attempted before T3211 expiry.
72	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
73	←		RRC CONNECTION SETUP	
74	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
75	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
76	→		TMSI REALLOCATION COMPLETE	
77	←		RRC CONNECTION RELEASE	Steps 80 to 83 are optional as the UE may have memorized the request for CM connection attempt Wait 10 s to decide whether to go directly to step 84.
78	→		RRC CONNECTION REQUEST	Establishment cause: Not checked.
79	←		RRC CONNECTION SETUP	
80	→		CM SERVICE REQUEST	CKSN = no key available, Mobile identity = TMSI.
81	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle updated" in cell A.
82	UE			The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable as defined in subclause 6.6.2.
83	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
84	←		RRC CONNECTION SETUP	
85	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
86	SS			performs step 16.
87	UE			The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable as defined in subclause 6.6.2.
88	→		RRC CONNECTION REQUEST	Establishment cause: Location updating. The time interval between Cell B being set sufficiently low to ensure that Cell B is not suitable and this message shall be less than 20s.
89	←		RRC CONNECTION SETUP	
90	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available , LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), mobile station classmark 1 as given by the ICS and mobile identity = IMSI.

Step	Direction		Message	Comments
	UE	SS		
91		←	AUTHENTICATION REQUEST	CKSN = initial CKSN.
92	→		AUTHENTICATION RESPONSE	
93		←	LOCATION UPDATING ACCEPT	Mobile identity = TMSI.
94	→		TMSI REALLOCATION COMPLETE	
95		←	RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "Idle, updated" in cell A.

Specific message contents

None.

9.4.3.3 Location updating / abnormal cases / attempt counter equal to 4

9.4.3.3.1 Conformance requirement

1) When four failures such as cases d) to g) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure the ~~User Equipment~~UE shall:

   1.1 perform location updating after T3212 expiry by sending a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type set to "normal updating";

   1.2 if the T3212 initiated location updating was unsuccessful, then after T3211 expiry the ~~User Equipment~~UE shall send a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating".

2) When four failures such as cases d), f), g) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure the ~~User Equipment~~UE, if it supports speech, shall be able to perform an emergency call i.e. the ~~User Equipment~~UE is able to send a ~~CM Service Request~~CM SERVICE REQUEST message with the CM Service Type IE set to "emergency call establishment", CKSN IE set to "no key is available" and Mobile Identity IE set to its IMSI and then send an ~~Emergency Setup~~EMERGENCY SETUP message.

3) When four failures such as cases d), f), g) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure:

   3.1 the ~~User Equipment~~UE shall use a request from CM entity for MM connection for a service other than emergency call as a trigger for a normal location updating procedure and shall send a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating";

   3.2 after a location updating triggered by a request from the CM layer which was .unsuccessful, after T3211 expiry the ~~User Equipment~~UE shall send a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating".

4) When four failures such as cases d), f), g) of clause 4.4.4.9 of TS 24.008 have occurred during a normal location updating procedure:

   4.1 the ~~User Equipment~~UE shall perform a normal location updating procedure if it enters a new cell;

   4.2 if this location updating is unsuccessful, after T3211 expiry the ~~User Equipment~~UE shall send a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type IE set to "normal location updating".

References

TS 24.008 Clause 4.4.4.9.

9.4.3.3.2 Test purpose

To verify that the UE performs normal location updating procedures after T3212 expiry, when its attempt counter has reached value 4 and that the UE reset its attempt counter after a timer T3212 expiry.

To verify that the UE still follows the MM IDLE ATTEMPTING TO UPDATE state requirements after its attempt counter has reached value 4.

To verify that the attempt counter is reset in the cases where it has to be done.

9.4.3.3.3 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B, belonging to different location areas a and b;
  - IMSI attach/detach is allowed in both cells;
  - T3212 is set to 6 minutes.
- User Equipment:
  - the UE is "Idle updated" on cell B with a valid CKSN and a TMSI.

Related ICS/IXIT statements

~~SIM~~USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

~~Foreseen final state of the UE~~

~~The UE is "Idle updated" on cell A with a valid CKSN and a TMSI.~~

Test Procedure

The UE is made to perform a normal location updating. The SS triggers a failure in this procedure. After T3211 expiry the UE will try again the location updating procedure. The SS triggers again a failure. This is done again 2 times. At this point the attempt counter shall be equal to 4. It is then checked that T3212 has been started and that at its expiry the UE will try a normal location updating procedure. It is verified that the UE has reset its attempt counter after timer T3212 expiry.

Then it is checked that, when the attempt counter has reached the value of 4, the UE is in the MM IDLE state and ATTEMPTING TO UPDATE substate, that is:

- not perform an IMSI detach procedure;
- support request for emergency call;
- use requests from CM layer other than emergency call as triggering of a normal location updating procedure;
- perform normal location updating procedure when a new cell is entered.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell A.
1	UE			The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable as defined in subclause 6.6.2.
2	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
5	←		LOCATION UPDATING REJECT	IE Reject cause is set to #22 * in table 10.66 of, causes #2, #3, #6, #11, #12 and #13 being excluded.
6	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
7	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B within T3211.
8	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
9	←		RRC CONNECTION SETUP	
10	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
11	SS			The SS deactivates the SACCH on the dedicated RRC CONNECTION and waits until there are no more SACCH frames in the uplink. This is done within 8 SACCH frames.
12	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B with T3211 + RadioLinkTimeout after the SS deactivates the SACCH.
13	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
14	←		RRC CONNECTION SETUP	
15	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
16	←		AUTHENTICATION REQUEST	
17	→		AUTHENTICATION RESPONSE	these steps (16 and 17) are performed N times. N shall be chosen in such a way that T3210 expires. Depending on when T3210 expires in the UE, it is possible that on the Nth occurrence of step 50 the UE may send a L2 DISC rather than the AUTHENTICATION RESPONSE message.
18	UE			The UE shall cease transmission (after the DISC/UA exchange has been completed) and then shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the expiry of T3210.
19	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
20	←		RRC CONNECTION SETUP	
21	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
22	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
23	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3212 (tolerance -15s; 45s) at least after the RRC CONNECTION release.
24	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
25	←		RRC CONNECTION SETUP	

Step	Direction		Message	Comments
	UE	SS		
26	→		LOCATION UPDATING REQUEST	location updating type: "normal location update" CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
27	←		LOCATION UPDATING REJECT	IE Reject cause = #17 "network failure".
28	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
29	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
30	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
31	←		RRC CONNECTION SETUP	
32	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
33	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
34	→		AUTHENTICATION RESPONSE	
35	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
36	→		TMSI REALLOCATION COMPLETE	
37			RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle, updated" in cell A.
38	UE			The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable as defined in subclause 6.6.2.
39	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
40	←		RRC CONNECTION SETUP	
41	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
42	←		LOCATION UPDATING REJECT	IE Reject cause is set to #42 * in table 10.66 of, causes #2, #3, #6, #11, #12 and #13 being excluded.
43	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
44	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
45	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
46	←		RRC CONNECTION SETUP	
47	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
48	SS			The SS deactivates the SACCHon the dedicated RRC CONNECTION and waits until there is no more SACCH frames in the uplink. This is done within 8 SACCH frames.
48a	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B within T3211 + RadioLinkTimeOut after the SS deactivates the SACCH.
49	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
50	←		RRC CONNECTION SETUP	
51	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
52	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
53	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.

Step	Direction		Message	Comments
	UE	SS		
54	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
55	←		RRC CONNECTION SETUP	
56	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
57		SS		performs step 42 with cause #38 and step 43.
58	UE			If the UE supports speech, it is made to perform an emergency call.
59	→		RRC CONNECTION REQUEST	Establishment cause: Emergency call.
60	←		RRC CONNECTION SETUP	
61	→		CM SERVICE REQUEST	CM service type = Emergency call establishment; CKSN = no key available; Mobile Identity = IMSI.
62	←		CM SERVICE ACCEPT	
63	→		EMERGENCY SETUP	
64	←		RELEASE COMPLETE	Cause = unassigned number.
65	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
66	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
67	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 seconds.
68	UE			Depending on what has been performed in step 66 the UE is brought back to operation.
69	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
70	←		RRC CONNECTION SETUP	
71	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
72	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
73	→		AUTHENTICATION RESPONSE	
74	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
75	→		TMSI REALLOCATION COMPLETE	
76	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle, updated" in cell B.
77	UE			The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable as defined in subclause 6.6.2.
78	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
79	←		RRC CONNECTION SETUP	
80	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
81	←		LOCATION UPDATING REJECT	IE Reject cause is set to #38 * in table 10.66 of, causes #2, #3, #6, #11, #12, and #13 being excluded.
82	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
83	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
84	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
85	←		RRC CONNECTION SETUP	
86	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.

Step	Direction		Message	Comments
	UE	SS		
87		SS		The SS deactivates the SACCH on the dedicated RRC CONNECTION and waits until there is no more SACCH frames in the uplink. This is done within 8 SACCH frames.
88	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B within T3211 +RadioLinkTimeout seconds after the SS deactivates the SACCH.
89	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
90	←		RRC CONNECTION SETUP	
91	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
92	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
93	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
94	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
95	←		RRC CONNECTION SETUP	
96	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
97		SS		performs step 48.
98	UE			A MO CM connection is attempted.
99	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
100	←		RRC CONNECTION SETUP	
101	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
102		SS		performs step 52.
103	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
104	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
105	←		RRC CONNECTION SETUP	
106	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
107	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
108	→		AUTHENTICATION RESPONSE	
109	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.
110	→		TMSI REALLOCATION COMPLETE	
111	←		RRC CONNECTION RELEASE	UE is now "idle, updated" in cell A The UE may or may not have memorized the request for CM connection. The steps 112 to 116 are therefore optional for the UE. The SS waits 10 second whether to decide to go directly to step 117.
112	→		RRC CONNECTION REQUEST	
113	←		RRC CONNECTION SETUP	
114	→		CM SERVICE REQUEST	CKSN = initial value, Mobile identity = TMSI.
115	←		CM SERVICE REJECT	cause #17 (network failure).
116	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
117	UE			The RF level of cell A is lowered until the UE selects cell B. The RF level of cell A is set sufficiently low to ensure that cell A is not suitable as defined in subclause 6.6.2.
118	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
119	←		RRC CONNECTION SETUP	

Step	Direction		Message	Comments
	UE	SS		
120	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = initial value, LAI = a, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
121	←		LOCATION UPDATING REJECT	IE Reject cause is set to #38 * in table 10.66 of, causes #2, #3, #6, #11, #12 and #13 being excluded.
122	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link
123	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
124	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
125	←		RRC CONNECTION SETUP	
126	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
127	SS			The SS stops any RF transmission on the dedicated RRC CONNECTION and waits until there is no more SACCH in the uplink.
128	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B within T3211 + RadioLinkTimeOut seconds after the SS stops RF transmission.
129	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
130	←		RRC CONNECTION SETUP	
131	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
132	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
133	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B during T3211 seconds at least after the RRC CONNECTION release.
134	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
135	←		RRC CONNECTION SETUP	
136	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
137	SS			performs steps 42 and 43.
138	UE			The RF level of cell B is lowered until the UE selects cell A. The RF level of cell B is set sufficiently low to ensure that cell B is not suitable as defined in subclause 6.6.2.
139	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
140	←		RRC CONNECTION SETUP	
141	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available , LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
142	SS			performs the step 48.
143	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B until T3211 + RadioLinkTimeout after the SS deactivates the SACCH.
144	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
145	←		RRC CONNECTION SETUP	
146	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE), Mobile Identity = IMSI.
147	←		AUTHENTICATION REQUEST	CKSN = initial CKSN.
148	→		AUTHENTICATION RESPONSE	
149	←		LOCATION UPDATING ACCEPT	IE mobile Identity = new TMSI.

Step	Direction		Message	Comments
	UE	SS		
150	→		TMSI REALLOCATION COMPLETE	
151	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link. UE is now "idle, updated" in cell A.

Specific message contents

None.

9.4.3.4 Location updating / abnormal cases / attempt counter less or equal to 4, stored LAI equal to broadcast LAI

9.4.3.4.1 Conformance requirement

1) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during a periodic location updating procedure (the broadcast LAI is equal to the stored LAI):

   1.1 the ~~User Equipment~~UE shall be able to establish an MM connection i.e. send a RRC CONNECTION Request and then a ~~CM Service Request~~CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the ~~User Equipment~~UE, Mobile Identity IE set to the TMSI which has been allocated to the ~~User Equipment~~UE;

   1.2 then the ~~User Equipment~~UE shall not attempt a location updating procedure.

2) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during an IMSI attach procedure (the broadcast LAI is equal to the stored LAI):

   2.1 the ~~User Equipment~~UE shall be able to establish an MM connection i.e. send a RRC CONNECTION Request and then a ~~CM Service Request~~CM SERVICE REQUEST message, CKSN and LAI set to those which have been allocated to the ~~User Equipment~~UE, Mobile Identity IE set to the TMSI which has been allocated to the ~~User Equipment~~UE;

   2.2 then the ~~User Equipment~~UE shall not attempt a location updating procedure.

3) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during a periodic location updating procedure and the attempt counter is smaller than 4 the ~~User Equipment~~UE shall send, after T3211 expiry, a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the ~~User Equipment~~UE, CKSN IE and LAI set to those which have been allocated to the ~~User Equipment~~UE and the Location Updating type set to "periodic updating".

   3.1 When the ~~User Equipment~~UE's attempt counter reaches the value 4 (four failures such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 have occurred during a periodic location updating procedure) after T3212 expiry it shall send a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type set to "normal".

4) When the ~~User Equipment~~UE's attempt counter reaches the value 4 (four failures such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 have occurred during a periodic location updating procedure) it shall use a request for a CM connection other than emergency call as a trigger for a location updating procedure.

5) When a failure such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 has occurred during an IMSI attach procedure and the attempt counter is smaller than 4 the ~~User Equipment~~UE shall send, after T3211 expiry, a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to the TMSI which has been allocated to the ~~User Equipment~~UE, CKSN IE and LAI set to those which have been allocated to the ~~User Equipment~~UE and the Location Updating type set to "IMSI attach".

5.1 When the ~~User Equipment~~UE's attempt counter reaches the value 4 (four failures such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 have occurred during an IMSI attach procedure) after T3212 expiry it shall send a ~~Location Updating Request~~LOCATION UPDATING REQUEST message with the Mobile Identity IE set to its IMSI, CKSN IE set to "no key is available" and the Location Updating type set to "normal".

6) When the ~~User Equipment~~UE's attempt counter reaches the value 4 (four failures such as cases d), f) and g) of clause 4.4.4.9 of TS 24.008 have occurred during an IMSI attach procedure) it shall use a request for a CM connection other than emergency call as a trigger for a location updating procedure.

References

TS 24.008 Clause 4.4.4.9.

9.4.3.4.2 Test purpose

To verify that in the case when the attempt counter is smaller than 4 and the broadcast LAI is equal to the stored LAI, the UE is in the MM IDLE state and NORMAL SERVICE substate. To verify that timer T3211 is stopped after a MM connection establishment.

To verify that the UE uses the T3211 timer. and that it enters the MM IDLE state and NORMAL SERVICE substate when its attempt counter reaches value 4 even in the case where the stored LAI is equal to the broadcast LAI.

9.4.3.4.3 Method of test

Initial conditions

- System Simulator:
  - one cell: B, belonging to location area b;
  - IMSI attach/detach is allowed;
  - T3212 is set to 6 minutes.
- User Equipment:
  - the UE is "Idle updated" on cell B with a valid CKSN and a TMSI.

Related ICS/IXIT statements

~~SIM~~USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

~~Foreseen final state of the UE~~

~~The UE is "idle updated" on cell B with a valid CKSN and a TMSI.~~

Test Procedure

A failure during the periodic location updating is triggered: as the broadcast LAI is equal to the stored LAI, the UE is still in the MM IDLE state and NORMAL SERVICE substate and timer T3211 is started. A CM connection other than for emergency call is attempted. It is checked that this is possible and that T3211 is stopped. Same test is performed with a failure during an IMSI attach procedure.

Then failures are triggered during the periodic location updating to let the attempt counter to reach the value of 4. The UE shall enter the MM IDLE LIMITED SERVICE state and delete any TMSI, stored LAI, ciphering key sequence number and ciphering key. When the attempt counter reaches the value of 4, timer T3212 shall be started. At timer T3212 expiry a location updating procedure is started. A request for CM connection other for than emergency call shall trigger a location updating procedure.

Same tests are performed when the failures are triggered during an IMSI attach procedure.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The SS shall wait at most T3212 + 45 seconds.
2	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
5		SS		performs step 5, of 9.4.3.2 with cause #17 and step 6 of 9.4.3.2.
6	UE			A MO CM connection is attempted.
7	→		RRC CONNECTION REQUEST	
8	←		RRC CONNECTION SETUP	
9	→		CM SERVICE REQUEST	CKSN = initial CKSN, Mobile Identity = TMSI.
10	←		CM SERVICE ACCEPT	
11	→		An initial CM message	
12			RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
13		SS		The UE shall not initiate an RRC connection establishment. This is checked during 2*T3211.
14	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
				Steps 15 to 19 are optional.
15	→		RRC CONNECTION REQUEST	
16	←		RRC CONNECTION SETUP	
17	→		IMSI DETACH INDICATION	
18	←		RRC CONNECTION RELEASE	
19	UE			Depending on what has been performed in step 14 the UE is brought back to operation.
20	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
21	←		RRC CONNECTION SETUP	
22	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
23		SS		performs step 11 of 9.4.3.2.
24	UE			A MO CM connection is attempted.
25	→		RRC CONNECTION REQUEST	
26	←		RRC CONNECTION SETUP	
27	→		CM SERVICE REQUEST	CKSN = initial CKSN, Mobile Identity = TMSI.
28	←		SECURITY MODE COMMAND	
29	→		SECURITY MODE COMPLETE	
30	→		An initial CM message	
31	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
32		SS		The UE shall not initiate an RRC connection establishment. This is checked during 2*T3211 UE is "idle, updated" in cell B.
32/1	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
				Steps 32/2 to 32/5 are optional.
32/2	→		RRC CONNECTION REQUEST	
32/3	←		RRC CONNECTION SETUP	
32/4	→		IMSI DETACH INDICATION	
32/5	←		RRC CONNECTION RELEASE	
32/6	UE			Depending on what has been performed in step 32/1, the UE is brought back to operation.
32/7	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
32/8	←		RRC CONNECTION SETUP	
32/9	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
32/10	←		LOCATION UPDATING ACCEPT	without mobile identity

Step	Direction		Message	Comments
	UE	SS		
32/11	←		RRC CONNECTION RELEASE	
33		SS		The SS shall wait at most T3212 + 15 seconds.
34	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
35	←		RRC CONNECTION SETUP	
36	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
37		SS		performs step 16 of 9.4.3.2.
38	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC CONNECTION release.
39	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
40	←		RRC CONNECTION SETUP	
41	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
42		SS		performs step 5 of 9.4.3.2 with cause #17 and step 6 of 9.4.3.2.
43	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC CONNECTION release.
44	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
45	←		RRC CONNECTION SETUP	
46	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
47		SS		performs step 11 of 9.4.3.2.
48	UE			The UE shall not initiate an RRC connection establishment within T3211 + RadioLinkTimeout after the SS deactivates the SACCH.
49	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
50	←		RRC CONNECTION SETUP	
51	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
52		SS		performs step 16 of 9.4.3.2.
53	UE			The UE shall not initiate an RRC connection establishment during T3212 - 15 seconds at least after the RRC CONNECTION release.
54	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
55	←		RRC CONNECTION SETUP	
56	→		LOCATION UPDATING REQUEST	location updating type = periodic or normal (see Note 1), CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
57	←		AUTHENTICATION REQUEST	
58	→		AUTHENTICATION RESPONSE	
59a	←		LOCATION UPDATING ACCEPT TMSI REALLOCATION	IE mobile Identity = TMSI.
59b	→		COMPLETE	
60	←		RRC CONNECTION RELEASE	The SS waits for the disconnection of the main signalling link.
61	UE			The UE shall no initiate an RRC connection establishment earlier than T3212 - 15 seconds after the transmission of the RRC CONNECTION RELEASE in step 60.
62	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
63	←		RRC CONNECTION SETUP	
64	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
65		SS		performs step 5 of 9.4.3.2 with cause #17 and step 6 of 9.4.3.2.

Step	Direction		Message	Comments
	UE	SS		
66	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC CONNECTION release.
67	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
68	←		RRC CONNECTION SETUP	
69	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
70		SS		performs step 11 of 9.4.3.2.
71	UE			The UE shall not initiate an RRC connection establishment within T3211 + RadioLinkTimeout after the SS deactivates the SACCH.
72	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
73	←		RRC CONNECTION SETUP	
74	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
75		SS		performs step 16 of 9.4.3.2.
76	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC CONNECTION release.
77	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
78	←		RRC CONNECTION SETUP	
79	→		LOCATION UPDATING REQUEST	location updating type = periodic, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
80		SS		performs step 5 of 9.4.3.2 with cause #17 and step 6 of 9.4.3.2.
81	UE			A MO CM connection is attempted.
82	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
83	←		RRC CONNECTION SETUP	
84	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
85	←		LOCATION UPDATING ACCEPT	IE mobile identity = TMSI.
86	→		TMSI REALLOCATION COMPLETE	
87	←		RRC CONNECTION RELEASE	
				Steps 88 to 92 are optional Wait 10 s to decide whether to go directly to step 93.
88	→		RRC CONNECTION REQUEST	
89	←		RRC CONNECTION SETUP	
90	→		CM SERVICE REQUEST	CKSN = no key available, Mobile identity = TMSI
91	←		CM SERVICE REJECT	cause #17 (network failure).
92	←		RRC CONNECTION RELEASE	
93	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
				Steps 94 to 97 are optional.
94	→		RRC CONNECTION REQUEST	
95	←		RRC CONNECTION SETUP	
96	→		IMSI DETACH INDICATION	
97	←		RRC CONNECTION RELEASE	
98	UE			Depending on what has been performed in step 97 the UE is brought back to operation.
99	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
100	←		RRC CONNECTION SETUP	
101	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = no key available, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
102		SS		performs step 11 of 9.4.3.2.

Step	Direction		Message	Comments
	UE	SS		
103	UE			The UE shall not initiate an RRC connection establishment within T3211 + RadioLinkTimeout after the SS deactivates the SACCH.
104	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
105	←		RRC CONNECTION SETUP	
106	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = no key available, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
107	←		RRC CONNECTION RELEASE	After the sending of the message the SS waits for the disconnection of the main signalling link.
108	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC CONNECTION release.
109	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
110	←		RRC CONNECTION SETUP	
111	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = no key available, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
112a	←		LOCATION UPDATING REJECT	IE Reject cause is set to a value arbitrarily chosen: * in table 10.66 of, causes #2, #3, #6, #11, #12, and #13 being excluded.
112b	→		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
113	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC CONNECTION release.
114	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
115	←		RRC CONNECTION SETUP	
116	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = no key available, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
117	SS			performs step 11 of 9.4.3.2.
118	UE			The UE shall not initiate an RRC connection establishment during T3212 - 15 seconds at least after the RRC CONNECTION release.
119	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
120	←		RRC CONNECTION SETUP	
121	→		LOCATION UPDATING REQUEST	location updating type = periodic or normal or IMSI attach (see Note 2), CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
122	←		AUTHENTICATION REQUEST	
123	→		AUTHENTICATION RESPONSE	
124	←		LOCATION UPDATING ACCEPT	IE mobile Identity = TMSI.
125	→		TMSI REALLOCATION COMPLETE	
126	←		RRC CONNECTION RELEASE	
127	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
				Steps 128 to 131 are optional.
128	→		RRC CONNECTION REQUEST	
129	←		RRC CONNECTION SETUP	
130	→		IMSI DETACH INDICATION	
131	←		RRC CONNECTION RELEASE	
132	UE			Depending on what has been performed in step 130 the UE is brought back to operation.
133	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
134	←		RRC CONNECTION SETUP	
135	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
136	SS			performs step 16 of 9.4.3.2.

Step	Direction		Message	Comments
	UE	SS		
137	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC CONNECTION release.
138	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
139	←		RRC CONNECTION SETUP	
140	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
141		SS		performs step 5 of 9.4.3.2 with cause #17 and step 6 of 9.4.3.2.
142	UE			The UE shall not initiate an RRC connection establishment during T3211 at least after the RRC CONNECTION release.
143	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
144	←		RRC CONNECTION SETUP	
145	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
146		SS		performs step 11 of 9.4.3.2.
147	UE			The UE shall not initiate an RRC connection establishment within T3211 + RadioLinkTimeout after the SS deactivates the SACCH.
148	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
149	←		RRC CONNECTION SETUP	
150	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach, CKSN = initial value, LAI = b, mobile station classmark 1 as given by the ICS and mobile identity = TMSI.
151		SS		performs step 16 of 9.4.3.2.
152	UE			The UE is made to perform a MO call.
153	→		RRC CONNECTION REQUEST	Establishment cause: Location updating.
154	←		RRC CONNECTION SETUP	
155	→		LOCATION UPDATING REQUEST	location updating type = normal, CKSN = no key available, LAI = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE) mobile station classmark 1 as given by the ICS and mobile identity = IMSI.
156	←		AUTHENTICATION REQUEST	
157	→		AUTHENTICATION RESPONSE	
158	←		LOCATION UPDATING ACCEPT	IE mobile Identity = TMSI.
159	→		TMSI REALLOCATION COMPLETE	
160	←		RRC CONNECTION RELEASE	
				Steps 161 to 166 are optional.
161	UE			An MO CM connection is attempted.
162	→		RRC CONNECTION REQUEST	
163	←		RRC CONNECTION SETUP	
164	→		CM SERVICE REQUEST	CKSN = initial value, Mobile identity = TMSI.
165	←		CM SERVICE REJECT	cause #17 (network failure).
166	←		RRC CONNECTION RELEASE	

NOTE 1: the UE can include both types of Location updating. As T3212 expires it can be a periodic location updating procedure and as there is no stored LAI it can be a normal one.

NOTE 2: same problem as in note 1. Three types of location updating procedures should be allowed.

Specific message contents

None.

9.4.4 Location updating / release / expiry of T3240

9.4.4.1 Conformance requirement

The ~~User Equipment~~UE receiving a LOCATION UPDATING REJECT message shall start T3240: it shall abort the RRC connection at the expiry of timer T3240.

References

TS 24.008 Clauses 4.4.4.8 and 11.2.

9.4.4.2 Test purpose

To verify that the UE aborts the RRC-connection at the expiry of timer T3240.

9.4.4.3 Method of test

Initial conditions

- System Simulator:
  - two cells: A and B, belonging to different location areas a and b.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated" on cell A.

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE is "idle updated" on cell B.~~

Test Procedure

A normal location updating procedure is performed. The RRC-connection is not released by the SS within the timer T3240. It is checked that the UE aborts the RRC-connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1		SS		The RF level of cell A is lowered until the UE selects cell B.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	
5	←		LOCATION UPDATING ACCEPT	
6		SS		The SS waits T3240 expiry.
7	UE			The UE shall abort the RRC connection (disconnection of layer 2).

Specific message contents

None.

9.4.5 Location updating / periodic

9.4.5.1 Location updating / periodic spread

9.4.5.1.1 Conformance requirement

1) The ~~User Equipment~~UEs shall perform spreading of the time before performing a periodic location updating when the location updating timer value is reduced.

2) The ~~User Equipment~~UE shall reset timer T3212 when the ~~User Equipment~~UE is deactivated, and shall start with a value between zero and the broadcasted value when reactivated in the same cell, IMSI attach being forbidden.

3) When activated the ~~User Equipment~~UE shall start timer T3212 with a value randomly drawn in the allowed range.

NOTE: This conformance requirement is not covered by a test purpose. It is intended to be covered by a manufacturer declaration.

References

TS 24.008 Clause 4.4.2.

9.4.5.1.2 Test purpose

1) To check that when the location updating timer is reduced, the timer running in the UE is started with a value depending on the current timer value and the new broadcasted T3212 value.

2) To verify that when the UE is reactivated in the same cell (as the one in which it was deactivated), IMSI attach being forbidden, the UE starts the timer T3212 with a value between zero and the broadcasted value.

NOTE: It is not tested that the value is random.

9.4.5.1.3 Method of test

Initial conditions

- System Simulator:
  - one cell, T3212 is set to 30 minutes;
  - IMSI attach is allowed in the cell;
- User Equipment:
  - the UE is deactivated. The stored MCC, MNC and LAC correspond to the broadcasted values. The stored update status is "updated".

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test procedure

The UE is activated. It performs IMSI attach. 3 minutes after the end of the IMSI attach procedure, the value of T3212 is set to 6 minutes. The UE shall perform periodic location updating 6 minutes after the end of the IMSI attach procedure.

Then, the IMSI attach/detach is forbidden. T3212 is still set to 6 minutes.

The UE is deactivated. The UE is reactivated. It is checked that the UE performs a periodic location updating during the 6 minutes following activation.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is activated.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"location updating type": IMSI attach.
5	←		LOCATION UPDATING ACCEPT	
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7		SS		3 minutes after step 6 the value of T3212 is set to 6 minutes.
8	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating This message shall be sent by the UE between 5minutes 45s and 6minutes 15s after step 6.
9	←		RRC CONNECTION SETUP	
10	→		LOCATION UPDATING REQUEST	"location updating type": periodic updating.
11	←		LOCATION UPDATING ACCEPT	
12	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
13		SS		IMSI attach/detach is not allowed.
14	UE			The UE is deactivated.
15	UE			The UE is activated.
16		SS		The SS waits until the periodic location updating.
17	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating This message shall arrive during the 7 minutes following the UE activation.
18	←		RRC CONNECTION SETUP	
19	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
20	←		LOCATION UPDATING ACCEPT	
21	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.5.2 Location updating / periodic normal / test 1

9.4.5.2.1 Conformance requirement

1 The ~~User Equipment~~UE shall stop and reset the timer T3212 of the periodic location updating procedure when the first MM message is received or SECURITY mode setting is completed in the case of MM connection establishment.

2 The ~~User Equipment~~UE shall stop and reset the timer T3212 of the periodic location updating procedure when the ~~User Equipment~~UE has responded to paging and thereafter has received the first correct L3 message that is not an RRC message.

References

TS 24.008 Clause 4.4.2.

9.4.5.2.2 Test purpose

To verify that the UE stops and resets the timer T3212 of the periodic location updating procedure when:

- the first MM-message is received in the case of MM-connection establishment, security mode being not set;
- the UE has responded to paging and the first correct L3 message that is not an RRC message is received.

NOTE: T3212 is stopped when the MM-idle state is left and restarted when the MM sublayer returns to that state, substate NORMAL SERVICE or ATTEMPTING TO UPDATE. As a consequence, the exact time when T3212 is reset between those two events cannot be tested.

9.4.5.2.3 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters;
  - IMSI attach/detach is not allowed;
  - the T3212 time-out value is 2/10 hour.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test procedure

An UE originated MM connection is established and cleared. The RRC CONNECTION is released. It is checked that the UE performs a periodic location updating 12 minutes after the release of the RRC CONNECTION.

One minute after the periodic location updating, the UE is paged, it sends a RRC CONNECTION REQUEST message and the SS responds with an RRC CONNECTION SETUP message, a call is established and then cleared. It is checked that the UE performs a periodic location updating 12 minutes after the release of the link.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			A MO CM connection is attempted.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		CM SERVICE REQUEST	
5	←		CM SERVICE REJECT	cause #17 (network failure).
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7		SS		The SS waits until the periodic location updating.
8	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating This message shall arrive between 11 minutes 45 s and 12 minutes 15 s after the last release of the RRC connection by the SS.
9	←		RRC CONNECTION SETUP	
10	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
11	←		LOCATION UPDATING ACCEPT	
12	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
13		SS		The SS waits 1 minute.
14		←	~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" = IMSI.
		→		"Establishment cause": Answer to paging.
		←		
15	→		PAGING RESPONSE	
16	←		AUTHENTICATION REQUEST	
17	→		AUTHENTICATION RESPONSE	
18	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
19		SS		The SS waits until the periodic location updating.
20	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating This message shall arrive between 11 minutes 45 s and 12 minutes 15 s after the last release of the RRC connection by the SS.
21	←		RRC CONNECTION SETUP	
22	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
23	←		LOCATION UPDATING ACCEPT	
24	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.5.3 Location updating / periodic normal / test 2

9.4.5.3.1 Conformance requirement

When a LOCATION UPDATING ACCEPT or a LOCATION UPDATING REJECT message is received, the timer T3212 is stopped and reset and the ~~User Equipment~~UE shall perform a periodic location updating after T3212 expiry.

References

TS 24.008 Clause 4.4.2.

9.4.5.3.2 Test purpose

To verify that the UE stops and resets the timer T3212 of the periodic location updating procedure when a LOCATION UPDATING ACCEPT message is received.

NOTE: T3212 is stopped when the MM-idle state is left and restarted when the MM sublayer returns to that state, substate NORMAL SERVICE or ATTEMPTING TO UPDATE. As a consequence, the exact time when T3212 is reset between those two events cannot be tested.

9.4.5.3.3 Method of test

Initial conditions

- System Simulator:
  - 2 cells, IMSI attach/detach is allowed in both cells;
  - T3212 is set to 6 minutes.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated" on cell A.

Related ICS/IXIT statements

~~SIM~~USIM removal possible while UE is powered Yes/No.

Switch off on button yes/No.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated" on cell B.~~

Test procedure

A normal location updating is performed. The RRC CONNECTION is released. One minute later, the UE is deactivated, then reactivated in the same cell. It is checked that the UE performs an IMSI attach and a periodic location updating 6 minutes after the IMSI attach.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
				The following messages are sent and shall be received on cell B.
1	SS			The RF level of cell A is lowered until the UE selects cell B.
2	→		RRC CONNECTION REQUEST	"establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"location updating type" = normal.
5	←		LOCATION UPDATING ACCEPT	
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7	SS			The SS waits until the periodic location updating.
8	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating This message shall arrive between 5 minutes 45s and 6 minutes 15 s after the last release of the RRC connection by the SS.
9	←		RRC CONNECTION SETUP	
10	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
11	←		LOCATION UPDATING ACCEPT	
12	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
13	UE			If possible (see ICS) ~~SIM~~USIM removal is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed. steps 14 to 17 may be performed or not depending on the action made in step 13.
14	→		RRC CONNECTION REQUEST	
15	←		RRC CONNECTION SETUP	
16	→		IMSI DETACH INDICATION	
17	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
18	UE			Depending on what has been performed in step 13 the UE is brought back to operation.
19	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
20	←		RRC CONNECTION SETUP	
21	→		LOCATION UPDATING REQUEST	"Location updating type" = IMSI attach.
22	←		LOCATION UPDATING ACCEPT	
23	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
24	SS			The SS waits until the periodic location updating.
25	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating This message shall arrive between 5 minutes 45 s and 6 minutes 15s after the last release of the RRC connection by the SS.
26	←		RRC CONNECTION SETUP	
27	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
28	←		LOCATION UPDATING ACCEPT	
29	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.5.4 Location updating / periodic HPLMN search

9.4.5.4.1 Location updating / periodic HPLMN search / UE waits time T

9.4.5.4.1.1 Conformance requirement

When in automatic mode and roaming in the home country, the UE shall make an attempt to access the HPLMN, if the UE is on the VPLMN at time T after since the last attempt.

NOTE: This test is not intended to test every value in the range 6 minutes to 8 hours or the default of 30 minutes, but is intended to check that the mobile is capable of using the value stored on the ~~SIM~~USIM.

References

TS 22.011 Clause 3.2.2.5. and TS 23.122 4.4.3.3.

9.4.5.4.1.2 Test purpose

To verify that when a cell of the HPLMN becomes available, following the successful location request on the VPLMN of the home country and after the first search the mobile has failed to find its HPLMN, that the UE shall perform a location update request on the HPLMN after time T. Were T is the HPLMN Search Period stored in the ~~SIM~~USIM.

9.4.5.4.1.3 Method of test

Initial conditions

- System Simulator:
  - two cells A and B, belonging to different location areas with location identification a and b. Cell A shall be a cell of the HPLMN and Cell B shall be a cell of the VPLMN with a Country Code the same as that of Cell A. Initially Cell A shall not be broadcasting. IMSI attach/detach is not allowed on either cell.
- User Equipment:
  - the UE is switched off. The HPLMN Search Period on the ~~SIM~~USIM shall be set to 6 minutes. The location area information on the ~~SIM~~USIM is "deleted".

Related ICS/IXIT statements

Switch on/off button Yes/No.

~~Foreseen final state of the UE~~

~~The UE is "idle updated" on Cell A.~~

Test Procedure

Only Cell B shall be broadcasting. The UE shall be switched on either by using the Power Switch or by applying power. A normal location updating is performed on Cell B. Cell A shall be made available after 8 minutes, thus ensuring the UE fails to find the HPLMN during its first attempt. It is verified that the UE performs a location update request on Cell A, within 6 minutes after broadcasting of Cell A.

Expected sequence

Step	Direction		Message	Contents
	UE	SS		
				The following messages shall be sent and received on Cell B.
1	UE			The UE is switched on by either using the Power Switch or by applying power.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"Location Update Type": Normal.
5	←		LOCATION UPDATING ACCEPT	
6	←		RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link. The SS waits a period of 8 minutes, this allowing the UE to make its first periodic search.
8	SS			Cell A is made available. Within 8 minutes after step 8 the following messages shall be sent and received on Cell A.
9	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
10	←		RRC CONNECTION SETUP	
11	→		LOCATION UPDATING REQUEST	"Location Update Type": normal.
12	←		LOCATION UPDATING ACCEPT	
13	←		RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.5.4.2 Location updating / periodic HPLMN search / UE in manual mode

9.4.5.4.2.1 Conformance requirement

The periodic attempts shall only be performed if in automatic mode when the UE is roaming in its home country.

References

TS 22.011 Clause 3.2.2.5. and TS 23.122 4.4.3.3.

9.4.5.4.2.2 Test purpose

To verify that no HPLMN Search is performed when the UE is not in automatic mode.

9.4.5.4.2.3 Method of test

Initial conditions

- System Simulator:
  - two cells A and B, belonging to different location areas with location identification a and b. Cell A shall be a cell of the HPLMN and Cell B shall be a cell of the VPLMN with a Country Code the same as that of Cell A. Initially Cell A shall not be broadcasting. IMSI attach/detach is not allowed on either cell.
- User Equipment:
  - the UE is switched off. The HPLMN Search Period on the ~~SIM~~USIM shall be set to 6 minutes. The location area information on the ~~SIM~~USIM is "deleted".

Related ICS/IXIT statements

Switch on/off button Yes/No.

~~Foreseen final state of the UE~~

~~The UE is "idle updated" on Cell B.~~

Test Procedure

Only Cell B shall be broadcasting. The UE shall be switched on either by using the Power Switch or by applying power. A normal location updating is performed on Cell B. The UE is forced into manual selection mode. Cell A is made available. It is verified that the UE does not attempt to perform a location update on Cell A.

Expected sequence

Step	Direction		Message	Contents
	UE	SS		
				The following messages shall be sent and received on Cell B.
1	UE			The UE is switched on by either using the Power Switch or by applying power.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"Location Update Type": Normal.
5	←		LOCATION UPDATING ACCEPT	
6	←		RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link.
8	UE			The UE is forced into manual selection mode.
9	SS			Cell A is made available.
10	SS			The SS waits a period of 7 minutes. During this time no messages shall be received on Cell A.

Specific message contents

None.

9.4.5.4.3 Location updating / periodic HPLMN search / UE waits at least two minutes and at most T minutes

9.4.5.4.3.1 Conformance requirement

After switch on, the UE waits at least 2 minutes and at most T minutes before the first HPLMN Search is attempted.

References

TS 22.011 Clause 3.2.2.5. and TS 23.122 4.4.3.3.

9.4.5.4.3.2 Test purpose

To verify that the UE waits at least 2 minutes and at most T minutes before attempting its first HPLMN Search.

9.4.5.4.3.3 Method of test

Initial Conditions

- System Simulator:

- two cells A and B, belonging to different location areas with location identification a and b. Cell A shall be a cell of the HPLMN and Cell B shall be a cell of the VPLMN with a Country Code the same as that of Cell A. Initially Cell A shall not be broadcasting. IMSI attach/detach is not allowed on either cell.

- User Equipment:

  - the UE is switched off. The HPLMN Search Period on the ~~SIM~~USIM shall be set to 6 minutes. The location area information on the ~~SIM~~USIM is "deleted".

Related ICS/IXIT statements

Switch on/off button Yes/No.

~~Foreseen final state of the UE~~

~~The UE is "idle updated" on Cell A.~~

Test Procedure

Only Cell B shall be broadcasting. The UE shall be switched on either by using the Power Switch or by applying power. A normal location updating is performed on Cell B. Cell A is made available. It is verified that the UE attempts to perform a location update on Cell A, after at least 2 minutes and at most T minutes have passed following power on.

Expected sequence

Step	Direction		Message	Contents
	UE	SS		
				The following messages shall be sent and received on Cell B.
1	UE			The UE is switched on by either using the Power Switch or by applying power.
2	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"Location Update Type": Normal.
5	←		LOCATION UPDATING ACCEPT	
6	←		RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link.
8	SS			Cell A is made available.
9	SS			The SS waits a period of 2 minutes after the UE is switched on. During this time no messages shall be received on Cell A. The following messages shall be sent and received on cell A. Within T minutes after the UE is switched on the following messages shall be sent and received on cell A.
10	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating This message shall be sent between 2 and 7 minutes after step 1
11	←		RRC CONNECTION SETUP	
12	→		LOCATION UPDATING REQUEST	"Location Update Type": normal.
13	←		LOCATION UPDATING ACCEPT	
14	←		RRC CONNECTION RELEASE	After sending this message the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.4.6 Location updating / interworking of attach and periodic

9.4.6.1 Conformance requirement

1) If the ~~User Equipment~~UE is in service state NO CELL AVAILABLE, LIMITED SERVICE, PLMN SEARCH or PLMN SEARCH-NORMAL SERVICE when the timer expires the location updating procedure is delayed until this service state is left.

2) The T3212 time-out value shall not be changed in the NO CELL AVAILABLE, LIMITED SERVICE, PLMN SEARCH and PLMN SEARCH-NORMAL SERVICE states.

3) If the selected cell is in the location area where the ~~User Equipment~~UE is registered and IMSI ATTACH is not required and timer T3212 has not expired, then the state is NORMAL SERVICE.

References

1) TS 24.008 Clause 4.4.2.

2) TS 24.008 Clause 4.4.2.

3) TS 24.008 Clause 4.2.1.1.

9.4.6.2 Test purpose

1) To check that if the PLU timer expires while the UE is out of coverage, the UE informs the network of its return to coverage.

2) To check that the PLU timer is not disturbed by cells of forbidden PLMNs.

3) To check that if the PLU timer does not expire while out of coverage and if the mobile returns to the LA where it is updated, the mobile does not inform the network of its return to coverage.

9.4.6.3 Method of test

Initial conditions

- System Simulator:
  - two cells, a and b, of different PLMNs;
  - T3212 is set to 12 minutes on cell a;
  - T3212 is set to 6 minutes on cell b;
  - IMSI attach is allowed in both cells.
- User Equipment:
  - the UE is deactivated. The PLMN of cell b is entered in the ~~SIM~~USIM's forbidden PLMN list.

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE is "idle updated". The PLMN of cell b is entered in the SIM's forbidden PLMN list.~~

Test procedure

The UE is activated and placed in automatic network selection mode. It performs IMSI attach. 1 minute after the end of the IMSI attach procedure, cell a is switched off. The UE shall not location update on cell b. 8 minutes after the end of the IMSI attach procedure, cell a is switched on. The UE shall not location update on cell a before 11,75 minutes after the end of the IMSI attach procedure. The UE shall perform a periodic location update on cell a between 11,75 minutes and 12,25 minutes after the end of the IMSI attach procedure.

3 minutes after the end of the periodic location updating procedure, cell a is switched off. The UE shall not location update on cell b. 14 minutes after the end of the periodic location updating procedure, cell a is switched on and cell b is switched off. The UE shall perform a location update on cell a before 17 minutes after the end of the periodic location updating procedure.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is activated in automatic network selection mode.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"location updating type": IMSI attach.
5	←		LOCATION UPDATING ACCEPT	
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7	SS			1 minute after step 6, cell a is switched off.
8	SS			8 minutes after step 6, cell a is switched on.
9	→		RRC CONNECTION REQUEST	This message shall be sent by the UE between 11 minutes 45s and 12 minutes 15s after step 6.
10	←		RRC CONNECTION SETUP	
11	→		LOCATION UPDATING REQUEST	"location updating type": periodic updating.
12	←		LOCATION UPDATING ACCEPT	
13	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
14	SS			3 minutes after step 13, cell a is switched off.
15	SS			14 minutes after step 13, cell a is switched on and cell b is switched off.
16	→		RRC CONNECTION REQUEST	This message shall be sent by the UE before 17 minutes after step 13.
17	←		RRC CONNECTION SETUP	
18	→		LOCATION UPDATING REQUEST	"Location updating type" = periodic.
19	←		LOCATION UPDATING ACCEPT	
22	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5 MM connection

9.5.1 Introduction

[tbd]

9.5.2 MM connection / establishment with cipher

9.5.2.1 Conformance requirement

1) The ~~User Equipment~~UE shall be able to correctly set up an MM connection in a Mobile Originating CM connection attempt and send a ~~CM Service Request~~CM SERVICE REQUEST message with CKSN information element as stored in the ~~SIM~~USIM and Mobile Identity information element set to the TMSI.

2) The ~~User Equipment~~UE shall be able to interpret cipher mode setting as acceptance of its CM service request i.e. send a CM message.

References

TS 24.008 Clause 4.5.1.1.

9.5.2.2 Test purpose

To verify that the UE can correctly set up an MM connection in an origination and interpret cipher mode setting as acceptance of its CM service request.

9.5.2.3 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE has valid TMSI, CKSN. It is "idle updated".~~

Test Procedure

A mobile originating CM connection is initiated. After the UE has sent the CM SERVICE REQUEST message to the SS, an authentication procedure and a security mode setting procedure are performed. Then, the UE sends a CM message and the SS clears the call and releases the RRC CONNECTION.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			A MO CM connection is attempted.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		CM SERVICE REQUEST	
5	←		AUTHENTICATION REQUEST	
6	→		AUTHENTICATION RESPONSE	
7	←		SECURITY MODE COMMAND	The SS starts deciphering.
8	→		CIPHERINGSECURITY MODE COMPLETE	The SS starts enciphering.
A9	→		SETUP	
A10	←		RELEASE COMPLETE	"Cause" IE: "unassigned number".
B9	→		REGISTER	
B10	←		RELEASE COMPLETE	
C9	→		CP-DATA	
C10	←		CP-ACK	
C11	←		CP-DATA	
C12	→		CP-ACK	
13	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.3 MM connection / establishment without cipher

9.5.3.1 Conformance requirement

Upon reception of the CM SERVICE ACCEPT message, the UE shall send a CM message.

References

TS 24.008 Clause 4.5.1.1.

9.5.3.2 Test purpose

To verify that the UE can correctly set up an MM connection in an originating CM connection establishment when security mode setting is not required.

9.5.3.3 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test Procedure

A mobile originating CM connection is attempted. The MM-connection is established without invoking the security mode setting procedure.

Then, the UE sends a CM message and the SS releases the RRC CONNECTION.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			A MO CM connection is attempted.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		CM SERVICE REQUEST	
5	←		CM SERVICE ACCEPT	
A6	→		SETUP	
B6	→		REGISTER	
C6	→		CP-DATA	
C7	←		CP-ACK	
C8	←		CP-DATA	
C9	→		CP-ACK	
10	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.4 MM connection / establishment rejected

9.5.4.1 Conformance requirement

Upon reception of a CM SERVICE REJECT message, the UE shall not send any layer 3 message, start timer T3240 and enter the "wait for network command" state.

References

TS 24.008 Clause 4.5.1.1.

9.5.4.2 Test purpose

To verify that the UE does not send a layer 3 message when the service request is rejected by the SS.

9.5.4.3 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI; It is "idle updated".~~

Test Procedure

A mobile originating CM connection is attempted. After the UE has sent the CM SERVICE REQUEST message to the SS, the SS responds with a CM SERVICE REJECT message with reject cause "requested service option not subscribed". It is checked that the UE does not send a layer 3 message.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			A MO CM connection is attempted
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		CM SERVICE REQUEST	
5	←		CM SERVICE REJECT	"Reject cause" IE: "requested service option not subscribed".
6	SS			The UE shall not send a layer 3 message. This is checked during 5 seconds.
7	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.5 MM connection / establishment rejected cause 4

9.5.5.1 Conformance requirement

1) The ~~User Equipment~~UE shall be able to correctly set up an MM connection in a Mobile Originating CM connection attempt and send a ~~CM Service Request~~CM SERVICE REQUEST message with CKSN information element as stored in the ~~SIM~~USIM and Mobile Identity information element set to the TMSI.

2) The ~~User Equipment~~UE, when receiving a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR" shall wait for the network to release the RRC connection.

3) The ~~User Equipment~~UE shall then be able to perform a location updating procedure.

References

TS 24.008 Clause 4.5.1.1.

9.5.5.2 Test purpose

To verify that the UE can correctly accept a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR".

9.5.5.3 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE has valid TMSI, CKSN. It is "idle updated".~~

Test Procedure

A mobile originating CM connection is attempted. After the UE has sent the CM SERVICE REQUEST message to the SS, the SS responds with a CM SERVICE REJECT message with reject cause "IMSI unknown in VLR". On receipt of this message, the UE shall delete any TMSI, LAI, cipher key and cipher key sequence number. The RRC CONNECTION is released. It is checked that the UE performs a normal location updating procedure.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			A MO CM connection is attempted.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		CM SERVICE REQUEST	
5	←		CM SERVICE REJECT	"Reject cause" = "IMSI unknown in VLR".
6	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
7	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
8	←		RRC CONNECTION SETUP	
9	→		LOCATION UPDATING REQUEST	"Ciphering key sequence number" = "No key is available". "Mobile identity" = IMSI. "Location area identification" = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE).
10	←		AUTHENTICATION REQUEST	
11	→		AUTHENTICATION RESPONSE	
12	←		LOCATION UPDATING ACCEPT	"Mobile identity" = new TMSI.
13	→		TMSI REALLOCATION COMPLETE	
14	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.6 MM connection / expiry T3230

9.5.6.1 Conformance requirement

At T3230 expiry (i.e. no response is given but an RRC connection is available) the MM connection establishment shall be aborted.

References

TS 24.008 Clauses 4.5.1.2 and 11.2.

9.5.6.2 Test purpose

To verify that at T3230 expiry, the UE aborts the MM-connection establishment.

9.5.6.3 Method of test

Initial conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE has a valid TMSI. It is "idle updated".

Related ICS/IXIT statements

None.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test Procedure

A mobile originating CM connection is attempted. After the UE has sent the CM SERVICE REQUEST message to the SS, the SS waits for expiry of timer T3230. It is checked that the UE does not send a layer 3 message but waits for the release of the RRC-connection.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			A MO CM connection is attempted.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		CM SERVICE REQUEST	
5	SS			The SS waits for expiry of timer T3230.
6	←		CM SERVICE ACCEPT	
7	→		MM STATUS	"Reject cause " IE is "message not compatible with the call state or not implemented".
8	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.7 MM connection / abortion by the network

9.5.7.1 MM connection / abortion by the network / cause #6

9.5.7.1.1 Conformance requirement

1) Upon reception of an ABORT message, the UE shall release any ongoing MM connection and enter the "wait for network command" state.

2) If the cause in the ABORT message was cause #6, the ~~User Equipment~~UE shall:

   2.1 not perform normal location updating;

   2.2 not perform periodic location updating;

   2.3 not respond to paging with TMSI;

   2.4 reject any request for Mobile Originating call establishment except Emergency call;

   2.5 not perform IMSI detach if deactivated.

3) After reception of an ABORT message with cause #6, the ~~User Equipment~~UE, if it supports speech, shall accept a request for an emergency call by sending a RRC CONNECTION Request message with the establishment cause set to "emergency call".

4) After reception of an ABORT message with cause #6, the ~~User Equipment~~UE shall delete the stored LAI, CKSN and TMSI.

Reference(s)

TS 24.008 Clause 4.3.5.

9.5.7.1.2 Test purpose

To check that upon reception of an ABORT message with cause #6 during call establishment:

- the UE does not send any layer 3 message;
- after reception of an ABORT message and after having been deactivated and reactivated, the UE performs location updating using its IMSI as mobile identity and indicates deleted LAI and CKSN;
- the UE does not perform location updating, does not answer to paging with TMSI, rejects any request for mobile originating call except emergency call, does not perform IMSI detach;
- the UE accepts a request for emergency call.

9.5.7.1.3 Method of test

Initial Conditions

- System Simulator:
  - 2 cells, default parameters.
- User Equipment:
  - the UE has a valid TMSI, CKSN and ~~Kc~~CK, IK. It is "idle updated" on cell B.

Related ICS/IXIT Statement(s)

~~SIM~~USIM removal possible while UE is powered Yes/No.

Switch off on button Yes/No.

Support of speech Yes/No.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated" on cell A.~~

Test procedure

A mobile originating CM connection is attempted. Upon reception of the AUTHENTICATION RESPONSE message, the SS sends an ABORT message with cause #6. The SS waits for 5 seconds. The UE shall not send any layer 3 message. The SS releases the RRC connection.

The SS checks that the UE has entered the state MM IDLE substate NO IMSI, i.e. does not perform normal location updating, does not perform periodic updating, does not respond to paging, rejects any requests from CM entities except emergency calls and does not perform IMSI detach if deactivated.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
The following messages are sent and shall be received on cell B				
1	UE			A mobile originating CM connection is attempted.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	->		CM SERVICE REQUEST	
5	→		AUTHENTICATION REQUEST	
6	→		AUTHENTICATION RESPONSE	
7	←		ABORT	"reject cause" = #6.
8	SS			The SS waits for 5 seconds.
9	UE			The UE shall not send any layer 3 message during that time.
10	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
The following messages are sent and shall be received on cell A.				
11	SS			The RF levels are changed to make the UE reselect cell A.
12	UE			The UE performs cell reselection according to procedure as specified in (this however is not checked until step 22). The UE shall not initiate an RRC connection establishment on cell A or on cell B.
13	SS			The SS waits at least 7 minutes for a possible periodic updating.
14	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B.
15	←		~~MOBILE TERMINATED ESTABLISHMENT OF RRC CONNECTION~~Mobile terminated establishment of Radio Resource Connection	"Mobile identity" IE contains TMSI.
16	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is verified during 3 seconds.
17	UE			A MO CM connection is attempted.
18	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 seconds.
19	UE			If the UE supports speech (see ICS), an emergency call is attempted.
	→			"Establishment cause": Emergency call.
	←			
20	→		CM SERVICE REQUEST	"CM service type": Emergency call establishment.
21	←		CM SERVICE ACCEPT	
22	→		EMERGENCY SETUP	
23	←		RELEASE COMPLETE	"Cause" = unassigned number.
24	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.
25	UE			If possible (see ICS) ~~SIM~~USIM detachment is performed. Otherwise if possible (see ICS) switch off is performed. Otherwise the power is removed.
26	UE			The UE shall not initiate an RRC connection establishment on cell A or on cell B. This is checked during 3 seconds.
27	UE			Depending on what has been performed in step 29 the UE is brought back to operation.
28	→		RRC CONNECTION REQUEST	"Establishment cause": Location updating.
29	←		RRC CONNECTION SETUP	
30	→		LOCATION UPDATING REQUEST	"location updating type" = normal, "CKSN" = no key available, "Mobile Identity" = IMSI, "LAI" = deleted LAI (the MCC and MNC hold the previous values, the LAC is coded FFFE).

Step	Direction		Message	Comments
	UE	SS		
31	←		AUTHENTICATION REQUEST	"CKSN" = CKSN1.
32	→		AUTHENTICATION RESPONSE	
33	←		LOCATION UPDATING ACCEPT	"Mobile Identity" = TMSI.
34	→		TMSI REALLOCATION COMPLETE	
35	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.7.2 MM connection / abortion by the network / cause not equal to #6

9.5.7.2.1 Conformance requirement

Upon reception of an ABORT message, the UE shall release any ongoing MM connection and enter the "wait for network command" state.

Reference(s)

TS 24.008 Clause 4.3.5.

9.5.7.2.2 Test purpose

To check that when multiple MM connections are established, the UE releases all MM connections upon reception of an ABORT message, in the case when the two MM connections are established for a mobile terminating call and a non call related supplementary service operation.

9.5.7.2.3 Method of test

Initial Conditions

- System Simulator:
  - 1 cell, default parameters.
- User Equipment:
  - the UE is in state U10 of a mobile terminating call.

Related ICS/IXIT Statement(s)

The UE supports a non call related supplementary service operation during an active call Yes/No.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test procedure

A non call related supplementary service operation is attempted at the UE. Upon reception of the REGISTER message, the SS sends an ABORT message with cause # 17. The SS sends a DISCONNECT using the TI of the mobile terminating call. The UE shall send a RELEASE COMPLETE message with the PD and TI of the DISCONNECT message and with cause #81. The SS releases the RRC connection.

Expected Sequence

This procedure is performed if the UE supports non call related supplementary service operation.

Step	Direction		Message	Comments
	UE	SS		
1	UE			A non call related supplementary service operation is attempted at the UE.
2	→		CM SERVICE REQUEST	
3	←		CM SERVICE ACCEPT	
4	→		REGISTER	
5	←		ABORT	"reject cause" = #17.
6	←		DISCONNECT	with the TI of the mobile terminating call.
7	→		RELEASE COMPLETE	"cause" = #81. Same PD and TI as the DISCONNECT message.
8	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.8 MM connection / follow-on request pending

9.5.8.1 MM connection / follow-on request pending / test 1

9.5.8.1.1 Conformance requirement

The UE shall not attempt to establish a new MM connection after location updating on the same RRC connection if not allowed by the network.

Reference(s)

TS 24.008 Clause 4.4.4.6.

9.5.8.1.2 Test purpose

To check that when the network does not include the follow on proceed IE in a LOCATION UPDATING ACCEPT message, a UE that has a CM application request pending does not attempt to establish a new MM connection on that RRC connection.

9.5.8.1.3 Method of test

Initial Conditions

- System Simulator:
  - 1 cell, ATT flag is set to "MSs in the cell shall apply IMSI attach and detach procedure".
- User Equipment:
  - the UE has a valid TMSI and is deactivated.

Related ICS/IXIT Statement(s)

None.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test procedure

The UE is activated and a CM connection is attempted during the location updating procedure. The SS does not include the follow on proceed information element in the LOCATION UPDATING ACCEPT message. The SS waits for at least 8 seconds. The UE shall not send any layer 3 message for 8 seconds.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is activated.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	location updating type = IMSI attach. Then the SS waits for 15 s. During this delay a CM connection is attempted.
5	←		LOCATION UPDATING ACCEPT	follow on proceed IE not included.
6	SS			The SS wait for at least 8 seconds.
7	UE			The UE shall not send any layer 3 message for 8 seconds after reception of the LOCATION UPDATING ACCEPT message.
8	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.8.2 MM connection / follow-on request pending / test 2

9.5.8.2.1 Conformance requirement

A UE supporting the follow-on request procedure and having a CM connection request pending shall correctly establish an MM connection following a location update when allowed by the network.

Reference(s)

TS 24.008 Clause 4.4.4.6.

9.5.8.2.2 Test purpose

To check that when the network includes the follow on proceed IE in a LOCATION UPDATING ACCEPT message, a UE that supports the follow on request procedure and that has a CM application request pending establishes successfully a new MM connection on that RRC connection.

9.5.8.2.3 Method of test

Initial Conditions

- System Simulator:
  - 1 cell, ATT flag is set to "MSs in the cell shall apply IMSI attach and detach procedure".
- User Equipment:
  - the UE has a valid TMSI and is deactivated.

Related ICS/IXIT Statement(s)

UE supports the follow on request procedure Yes/No.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test procedure

The UE is activated and a CM connection is attempted during the location updating procedure. The SS includes the follow on proceed information element in the LOCATION UPDATING ACCEPT message. The SS waits for at least 8 seconds.

If the UE supports the follow on request procedure:

- the UE shall send a CM SERVICE REQUEST. Upon reception of that message, the SS sends a CM SERVICE ACCEPT message. The UE shall send an initial CM message. Upon reception of that message, the SS releases the RRC connection.

If the UE does not support the follow on request procedure:

- the UE shall not send any layer 3 message for 8 seconds.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is activated.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	Location updating type = IMSI attach. Then the SS waits for 15 s. During this delay a CM connection is attempted.
5	←		LOCATION UPDATING ACCEPT	follow on proceed IE included.
				If the UE supports the follow on request procedure (see ICS) steps A6 to A8 are performed, otherwise steps B6 to B7 are performed.
A6	→		CM SERVICE REQUEST	
A7	←		CM SERVICE ACCEPT	
A8	→		An initial CM message	
B6	SS			The SS wait for at least 8 seconds.
B7	UE			The UE shall not send any layer 3 message for 8 seconds after reception of the LOCATION UPDATING ACCEPT message.
9	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

9.5.8.3 MM connection / follow-on request pending / test 3

9.5.8.3.1 Conformance requirement

1) The UE shall not set the follow on request bit in a LOCATION UPDATING REQUEST message if no MM connection request is pending.

2) When the network includes the follow on proceed IE in a LOCATION UPDATING ACCEPT message, a UE that has no CM application request pending shall not attempt to establish a new MM connection on that RRC connection.

3) The UE shall correctly handle a CM connection established by the network on the RRC connection that was used for the location updating procedure.

Reference(s)

TS 24.008 Clause 4.4.4.6.

9.5.8.3.2 Test purpose

1) To check that a UE that has no CM application request pending sets the Follow-On-Request bit to No follow-on request pending in a LOCATION UPDATING REQUEST message.

2) To check that when the network includes the follow on proceed IE in a LOCATION UPDATING ACCEPT message, a UE that has no CM application request pending does not attempt to establish a new MM connection on that RRC connection.

3) To check that the UE accepts establishment by the network of a new MM connection on the existing RRC connection.

9.5.8.3.3 Method of test

Initial Conditions

- System Simulator:
  - 1 cell, ATT flag is set to "MSs in the cell shall apply IMSI attach and detach procedure".
- User Equipment:
  - the UE has a valid TMSI and is deactivated.

Related ICS/IXIT Statement(s)

Supported services on TCH.

~~Foreseen final state of the UE~~

~~The UE has a valid TMSI. It is "idle updated".~~

Test procedure

The UE is activated. The UE performs location updating. The UE shall set the FOR bit to No follow-on request pending in the LOCATION UPDATING REQUEST message. The SS includes the follow on proceed information element in the LOCATION UPDATING ACCEPT message. The SS waits for 5 seconds. The UE shall not send any layer 3 message for 5 seconds. The SS sends a SETUP message to the UE requesting a basic service supported by the UE. The UE shall send either a CALL CONFIRMED message if it supports a service on TCH or a RELEASE COMPLETE with cause #88.

Expected Sequence

Step	Direction		Message	Comments
	UE	SS		
1	UE			The UE is activated.
2	→		RRC CONNECTION REQUEST	
3	←		RRC CONNECTION SETUP	
4	→		LOCATION UPDATING REQUEST	"Location updating type" = IMSI attach. The FOR bit is set to No follow-on request pending.
5	←		LOCATION UPDATING ACCEPT	follow on proceed IE is included.
6	SS			The SS wait for 5 seconds.
7	UE			The UE shall not send any layer 3 message for 5 seconds after reception of the LOCATION UPDATING ACCEPT message.
8	←		SETUP	
A9	→		CALL CONFIRMED	If the UE supports a basic service on TCH.
B9	→		RELEASE COMPLETE	If the UE does not support any basic service on TCH. cause #88.
10	←		RRC CONNECTION RELEASE	After the sending of this message, the SS waits for the disconnection of the main signalling link.

Specific message contents

None.

3GPP TSG T1 Meeting #9
Redondo Beach, Ca, USA, 16-17 November 2000

Document T1-000319
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

3GPP TSG T1/SIG Meeting #14
California, USA, 13th to 15th November 2000

Document T1S-000238
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

34.123-1	CR	036	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	T1SIG#14	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source: Chairman, T1/SIG **Date:** 2000-11-05

Subject: CR to 34.123-1, Annex B, Mapping of test cases to core specification versions

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification	X		Release 99	X
				Release 00	

Reason for change: This CR introduces a table that relates each section in TS 34.123-1 to the version (and if appropriate, CRs) of each core specification on which the section based. This table is expected to be of value whilst the core specifications are undergoing significant revisions, and visibility of the state of maturity of each section of TS 34.123-1.

Clauses affected: Annex B

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

Annex B (informative). Core specification versions to which test cases relate

The table B/1 lists for each section of this specification the related core specification version on which the test cases were based. Where the test cases have been partially updated towards the next released version, but this work has not completed yet, each change request considered is listed in the final column.

Section number	Section heading	Related core specifications	Current version supported	Current change requests taken into account
6	Idle mode operations	25.304	3.3.0 (2000-06)	
		23.122	3.3.0 (2000-06)	
		31.102	3.3.0 (2000-10)	
		25.331	3.3.0 (2000-06)	
		25.133	3.2.0 (2000-06)	
		25.214	3.3.0 (2000-06)	
		25.101	3.3.1 (2000-06)	
		GSM 05.08	8.5.0 (2000-07)	
7.1	MAC	25.321	3.2.0	
7.2	RLC	25.322	3.4.0	
7.3	PDCP	25.323	3.2.0	
7.4	BMC	25.324	3.1.0	
8	Radio Resource Control (RRC)	25.331	3.4.1	
		04.18	9.0.0	
9	Elementary procedures of mobility management	24.008		
10	Circuit Switched Call Control (CC)	24.008	3.5.0	
11	Session Management Procedures	24.008	3.5.0	
12	Elementary procedure for Packet Switched Mobility Management	24.008	3.5.0	
13	General Tests	24.008	3.3.0	
14	Radio Bearer Services	N/A		
15	Supplementary Services	N/A		
16	Short message service (SMS)	23.040	3.5.0	
		23.041	3.3.0	

		24.011	3.4.0	
17	User Equipment features (MMI, VHE, MexE, SAT)			